

TECHNICAL MANUAL

**OPERATOR, UNIT, DIRECT SUPPORT
AND GENERAL SUPPORT
MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND
SPECIAL TOOLS LIST FOR
ELECTRICAL ENVIRONMENTAL
SYSTEM (EES) KIT USED ON**

**TRUCK UTILITY: S250 SHELTER CARRIER, 4X4, M1037
FOR TRAFFIC JAM AN/TLQ-17A(V)3 (HMMWV)**

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HEADQUARTERS, DEPARTMENT OF THE ARMY APRIL 1992

WARNING

EXHAUST GASES CAN KILL!

Brain damage or death can result from heavy exposure. Precautions must be followed to ensure crew safety when the personnel heater, main, or auxiliary engine of any vehicle is operated for any purpose.

1. DO NOT operate your vehicle engine in enclosed areas.
2. DO NOT idle vehicle engine with vehicle windows closed.
3. BE ALERT at all times for exhaust odors.
4. BE ALERT for exhaust poisoning symptoms. They are:
 - Headache
 - Dizziness
 - Sleepiness
 - Loss of muscular control
5. If you see a person with exhaust poisoning symptoms:
 - Remove person from area.
 - Expose to open air.
 - Keep person warm.
 - Do not permit physical exercise.
 - Administer artificial resuscitation, if necessary.*
 - Notify a medic.

* For artificial respiration, refer to FM 21-11.

6. BE AWARE, the field protective mask for Nuclear, Biological, or Chemical (NBC) protection will not protect you from carbon monoxide poisoning.

THE BEST DEFENSE AGAINST EXHAUST POISONING IS ADEQUATE VENTILATION.

WARNING SUMMARY

- Do not use hand throttle cable assembly as an automatic speed or cruise control. The hand throttle cable assembly does not automatically disengage when brake is applied, resulting in increased stopping distances and possibly hazardous and unsafe operation.
- Air conditioner system must be discharged prior to replacing components in vapor system. Failure to do this may result in injury to personnel or damage to equipment.
- Alternator must be supported during removal and installation. Failure to do this may cause injury to personnel or damage to equipment.
- Before inspecting power interface box assembly, battery ground cable must be disconnected, or serious injury to personnel may occur.
- Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or disconnected battery ground cable contacts battery terminal, a direct short will result, causing injury to personnel or damage to equipment.
- To prevent eye injury, wear protective eye wear while performing any soldering.
- When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.
- Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand. Failure to do so could result in serious injury.

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TRUCK, UTILITY: S250 SHELTER CARRIER, 4X4, M1037
FOR TRAFFIC JAM AN/TLQ-17A(V)3 (HMMWV)

REPORTING ERRORS AND RECOMMENDING IMPROVENENTS

You can help improve this manual . If you find any mistakes, or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48090-5000. A reply will be furnished to you.

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HOW TO USE THIS MANUAL

ABOUT YOUR MANUAL

- a. Spend some time looking through this manual. You'll find that it has a new look, different than most of the TMs you've been using. New features added to improve the convenience of this manual and increase your efficiency are:
1. Accessing Information - These include extensive troubleshooting guides that lead directly to step-by-step directions for problem solving and maintenance tasks.
 2. Illustrations - a variety of methods are used to make locating and fixing components much easier. Locator illustrations with keyed text, exploded views, and cut-away diagrams make the information in this manual easier to understand.
 3. Keying Text With Illustrations - Instructions are located together with figures that illustrate the specific task you are working on. In most cases, the task steps and figures are located side by side making part identification and procedure sequence easier to follow.

The TM is the fundamental means by which the Army communicates to soldiers the requirements and procedures necessary to perform equipment operations and maintenance. This manual describes in detail the Unit and DS/GS maintenance prescribed by the Maintenance Allocation Chart (MAC) (Appendix B) and the Source, Maintenance, and Recovery (SMR) Codes (Appendix D).

- b. General Features. Your TM is the best source available for providing the following information and data critical to operating and maintaining the components of the EES kit:
- Safety summary (warning pages a and b)
 - General information and equipment descriptions (chapter 1)
 - Use of Controls and indicators (chapter 2, section 1)
 - Operator Preventive Maintenance Checks and Services (PMCS) (chapter 2, section II)
 - Unit Preventive Maintenance Checks and Services (PMCS) (chapter 3, section IV)
 - Unit troubleshooting (chapter 3, section V)
 - Unit maintenance procedures (chapter 3, sections VI and VII)
 - Direct support troubleshooting (chapter 4, section II)
 - DS/GS maintenance procedures (chapter 4, sections III thru V)
 - Maintenance Allocation Chart (MAC) (appendix B)
 - Expendable/durable supplies and materials list (appendix C)
 - Repair Parts and Special Tools List (RPSTL) (appendix D)

A typical example of how to use this manual is provided on the following pages:

USING YOUR MANUAL: AN EXAMPLE

a. TASK: The operator of the Traffic Jam AN/TLQ-17A(V)3 (HMMWV) has complained that the tachometer RPMs are not correct during the counter-measures set operation. The system has been assigned to you for repair.

b. TROUBLESHOOTING STEPS:

1. Use the Table of Contents (page i) to find the chapter/section titles.
2. Look for "UNIT MAINTENANCE" in the chapter/section title list. This is where the Unit Troubleshooting information is located.
3. Chapter 3 is divided into seven sections:
 - Section I - Lubrication Instructions
 - Section II - Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment
 - Section III - Service Upon Receipt
 - Section IV - Unit Preventive Maintenance Checks and Services (PMCS)
 - Section V - Unit Troubleshooting
 - Section VI - Truck Cab Components Maintenance
 - Section VII - Electrical Components Maintenance

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| WASHINGTON, DC July 1990 | | |
| <p>TECHNICAL MANUAL OPERATOR, UNIT, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR ELECTRICAL ENVIRONMENTAL SYSTEM (EES) KIT USED ON TRUCK, UTILITY: S250 SHELTER CARRIER, AKA, M1037 FOR TRAFFIC JAM AN/TLQ-17A(V)3 (HMMWV)</p> | | |
| <p>REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS</p> <p>You can help improve this manual. If you find any mistakes, or if you know of a way to improve the manual, please let us know. Mail your letter or DA Form 2028-2 (Recommended Changes to Publications and Blank Forms), to the Command, ATTN: ANSTA-NB, Washington, D.C. 20315-5000. A reply will be furnished to you.</p> | | |
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Section V. UNIT TROUBLESHOOTING

3-12. GENERAL

- a. Information in this section is for use by unit maintenance personnel in conjunction with, and as a supplement to, troubleshooting procedures in TM 9-2320-280-10 and TM 9-2320-280-20.
- b. Unit troubleshooting, table 3-2, contains instructions that will help you diagnose and correct malfunctions of the components of the RES kit. The table also helps unit maintenance personnel identify difficulties that must be referred to direct support maintenance.
- c. The troubleshooting procedures in this section cannot give all the answers or correct all malfunctions encountered. However, these procedures are an organized step-by-step method to solve a problem that directs tests and inspections towards the source of the problem and successful correction.
- d. Before taking any action to correct a malfunction, the following rules should be followed:
- (1) Question the operator to obtain any information that might help you determine the cause of the problem.
 - (2) Never overlook the chance that the problem could be of simple origin. The problem could be corrected with minor adjustment.
 - (3) Use all senses to observe and locate troubles.
 - (4) Use test instruments or gages to help you determine and isolate the problem.
 - (5) Always isolate the system where the malfunction occurs and then locate the defective component.
 - (6) Review figure 3-1 to help in isolating the fault and understanding the equipment configuration.

3-6

4. Turn to "Section V, Unit Troubleshooting" (page 3-6).

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3-13. UNIT TROUBLESHOOTING

UNIT TROUBLESHOOTING
SYMPTOM INDEX

| MALFUNCTION NO. | MALFUNCTION | TROUBLESHOOTING PROCEDURE PAGE |
|-------------------------------|---|--------------------------------|
| TRUCK CAB COMPONENTS | | |
| 1. | Hand throttle will not operate properly | 3-11 |
| 2. | Tachometer reading is incorrect | 3-12 |
| 3. | Hourmeter is not functioning | 3-13 |
| SHELTER WARNING SYSTEM | | |
| 4. | With parking brake set, parking brake dash light is off, and status indicator alarm and light do not come on | 3-13 |
| 5. | Engine oil pressure gage displays normal reading and status indicator alarm and light are on | 3-15 |
| 6. | Engine oil pressure gage displays no pressure reading and status indicator alarm and light are on | 3-16 |
| 7. | Coolant temperature gage displays normal reading and status indicator alarm and light are on | 3-18 |
| 8. | Coolant temperature gage displays no engine temperature reading and status indicator alarm and light are on | 3-19 |
| 9. | Coolant temperature gage displays no engine temperature reading and status indicator alarm and light do not come on | 3-21 |
| 10. | Fuel gage displays reading of more than 3/8-tank full and status indicator alarm and light are on | 3-22 |
| 11. | Fuel gage displays reading of less than an eighth tank full and status indicator alarm and light do not come on | 3-23 |
| ELECTRICAL COMPONENTS | | |
| 12. | Shelter has no power and incandescent lamp on power interface box is not lit | 3-25 |

3-10

5. One of the first pages of this section is the "UNIT TROUBLESHOOTING SYMPTOM INDEX" (turn to page 3-10).
6. Look down the list until you find "TRUCK CAB COMPONENTS." Beneath that heading you will find the symptoms noted by the operator: "Tachometer reading is incorrect."
7. Turn to the page indicated: 3-12.

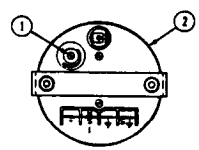
8. On page 3-12, steps relating to resolving the problem of an incorrect tachometer reading are listed. Read down the page until you find "TACHOMETER READING IS INCORRECT." The steps listed are shown in the example page to the right of this text.

9. In accordance with step 1, you connect the STE/ICE-R to the engine (TM 9-2320-280-20), start the engine (TM 9-2320-280-10), let the engine come to normal idle speed of 650 RPM (\pm 25 RPM) and then move on to step 2.

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Table 3-2. Unit Troubleshooting

| MAJORITY | TEST OR INSPECTION | CORRECTIVE ACTION |
|----------|---------------------------------|--|
| 2. | TACHOMETER READING IS INCORRECT | <p>Step 1. Connect STE/ICE-R to engine (TM 9-2320-280-20). Start engine (TM 9-2320-280-10) and let engine come to normal idle speed of 650 RPM (\pm 25 RPM).</p> <p>Step 2. Check engine idle against STE/ICE-R.</p> <p>If engine idle setting is incorrect, adjust engine idle (TM 9-2320-280-20).</p> <p>If engine idle setting is correct, go to step 3.</p> <p>Step 3. Compare STE/ICE-R RPM rate to tachometer RPM rate.</p> <p>If RPM rates agree, procedure is completed.</p> <p>If RPM rates do not agree, go to step 4.</p> <p>Step 4. Remove tach/hourmeter box cover from tach/hourmeter box. Adjust tachometer adjustment screw (1) on back of tachometer (2) until RPMs on STE/ICE-R and tachometer (2) agree.</p> |



If tachometer adjusts to correct RPMs, procedure is completed. Replace tach/hourmeter box cover on tach/hourmeter box.

If tachometer will not adjust to desired RPMs, replace tachometer (para 3-18).

END OF TESTING

3-12

10. In Step 2 you check the engine idle against the STE/ICE-R and find that it is correct.
11. In Step 3 you check the tachometer RPMs against the STE/ICE-R RPMs and find they do not match.
12. At this point, some CORRECTIVE ACTION in Table 3-2, Unit Troubleshooting, will direct you to a specific detailed procedure to solve the problem. To find the procedure, refer to the table of contents.

NOTE: Before attempting to repair or replace the tachometer, as a Unit mechanic, you must:

- a. Determine the maintenance responsibility of repair or replacement of the component.
- b. If the task is at your echelon of maintenance responsibility, you must identify the tools needed and the replacement parts required.

Refer to the Maintenance Allocation Chart (MAC) (appendix B) to determine not only the maintenance responsibility of the item, but also to obtain an estimate of the time required to perform the task, tools needed, and any special notes/requirements necessary.

Refer to the Repair Parts and Special Tools List (RPSTL) (appendix D) for the EES kit for requisition data concerning replacement parts for this task.

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c. TACHOMETER REPLACEMENT. After reporting the results of your troubleshooting efforts to your supervisor, he decides that the most expedient means of returning the system to service would be to replace the tachometer.

1. Turn to the "TABLE OF CONTENTS" (page i) again and find the section in Chapter 3 dealing with the truck cab components. You find it in "Section VI, Truck Cab Components Maintenance".

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Section VI. TRUCK CAB COMPONENTS MAINTENANCE

3-16. TRUCK CAB COMPONENTS MAINTENANCE TASK SUMMARY

| TASK PARA | PROCEDURE | PAGE NO. |
|--------------|---------------------------------|-------------|
| 3-15. | Hand Throttle Cable Replacement | 3-28 |
| 3-16. | Hand Throttle Cable Adjustment | 3-30 |
| 3-17. | Tach/Hourmeter Box Replacement | 3-32 |
| 3-18. | Tachometer Replacement | 3-34 |
| 3-19. | Hourmeter Replacement | 3-36 |
| 3-20. | Hand Assembly Replacement | 3-38 |
| 3-21. | Lanyard Replacement | 3-40 |
| 3-22. | Storage Box Replacement | 3-42 |
| 3-23. | Storage Box Repair | 3-44 |

2. Turn to Chapter 3, section VI on page 3-27. Here you find the "Truck Cab Components Maintenance Task Summary". Read down the list of tasks until you find the one that will correct your maintenance problem. For our example you will find it as task 3-18 "Tachometer Replacement." Turn to page 3-34.

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3-18. TACHOMETER REPLACEMENT

This task covers:

a. Removal**b. Installation****INITIAL SETUP:****Tools**General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)**Materials/Parts**

Seven lockwashers

P/N HS35338-137

One O-ring P/N HS9021-236

Manual References

TM 9-2320-280-10

TM 9-2320-280-20

Appendix B

Excluded Conditions

Battery ground cable disconnected

TM 9-2320-280-20)

a. Removal

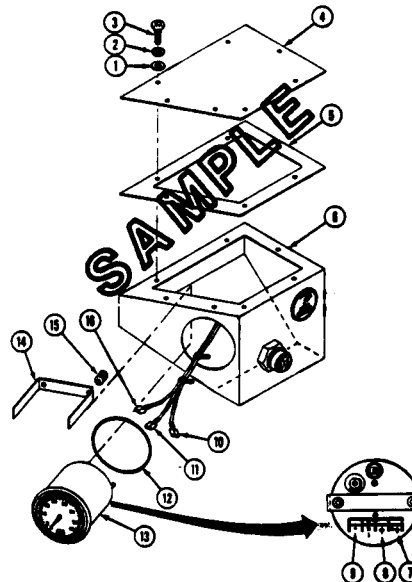
1. Remove seven screws (3), lockwashers (2), and washers (1) from tach/hourmeter box cover (4). Discard lockwashers (2).
2. Remove tach/hourmeter box cover (4) and gasket (5) from tach/hourmeter box (6).
3. Remove two knurled mounting nuts (15) and bracket (14) from tachometer (13) and remove tachometer (13) and O-ring (12) from tach/hourmeter box (6). Discard O-ring (12).
4. Disconnect leads (10), (11), and (16) from tachometer (13).

b. Installation

1. Install O-ring (12) to tachometer (13).
2. Connect leads to tachometer (13) as follows:
 - a. Red lead (10) to connector (9).
 - b. Black lead (11) to connector (8).
 - c. Yellow lead (16) to connector (7).
3. Install tachometer (13) and bracket (14) on tach/hourmeter box (6) and secure with two knurled mounting nuts (15).
4. Install gasket (5) and tach/hourmeter box cover (4) on tach/hourmeter box (6) and secure with seven washers (1), lockwashers (2), and screws (3).

3-34

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3-18. TACHOMETER REPLACEMENT (Cont'd)

FOLLOW-ON TASKS:

- Connect battery ground cable (TM 9-2320-280-20).
- Start engine (TM 9-2320-280-10) and check operation of tachometer 650 ± 25 RPM at idle.

3-35

3. On page 3-34 you find paragraph 3-18, the detailed procedure for replacing the tachometer.

d. DETAILED MAINTENANCE PROCEDURES. Detailed maintenance procedures include everything you must do to accomplish a basic maintenance task.

1. Before beginning the maintenance task, look through the procedure. You must familiarize yourself with the entire maintenance procedure of para. 3-18: "Tachometer Replacement." The task includes "a, Removal" and "b. Installation."

2. The eight basic headings listed under "INITIAL SETUP" outline task conditions, materials, tools and special tools, manpower requirements, and special conditions. The headings are:

- **Applicable Models:** any models that require a particular maintenance task. If a maintenance task covers all models, then this heading will not be used.
- **Test Equipment:** Test equipment needed to complete a task. If test equipment is not required, this heading will not be used.

- Tools and Special Tools: Those tools, tool kits, and special tools needed to complete a task. If no tools, tool kits, or special tools are required, this heading will not be used.

If you don't have one of these special tools, requisition it (before starting the task) using the data supplied in the RPSTL, appendix D, for your level of maintenance. Special tools are located in section III.

- Materials/Parts: This heading lists only mandatory replacement materials or parts (gaskets, "O" rings, sealant, etc.). To replace other unserviceable parts, refer to appendix D for requisition data. If no mandatory replacement materials/parts are required, this heading will not be used.
- Personnel Required: The number of personnel needed to perform a task. If only one mechanic is needed, this heading will not be used.

NOTE

If you think that you need more help to adequately or safely complete a task, perhaps as the result of unusual conditions, etc., alert your supervisor and ask for help.

- Manual References: Those TMs needed to complete the task. If no other TMs are needed, this heading will not be used.
 - Equipment Conditions: Notes the conditions that must exist before starting the task. If none are required, this heading will not be used. For the tachometer replacement, the engine should be shut off before we can start the task. If not already done, follow the procedure for engine shut off in TM 9-2320-280-10, before proceeding with this task.
 - General Safety Instructions: Summarizes all safety warnings for the maintenance task. If none are required, this heading will not be used.
3. A step by step maintenance procedure follows the "INITIAL SETUP" and gives detailed instructions for the procedure. These instructions give the part's general location and name and action performed. In the example, tachometer replacement - a. Removal, step 1 is : "Remove seven screws (2), lockwashers (3), and washers (1) from tach/hourmeter box cover (4). Discard lockwashers (3)." Note that the numbers in parenthesis correspond to the part's callout number in the accompanying illustration.

NOTE

Warnings, cautions, and notes provide supplemental information.

- **Warnings** - Indicate conditions, practices, or procedures which must be observed to avoid personnel injury, loss of life, or long-term health hazard.
 - **Cautions** - Indicate conditions, practices, or procedures which must be observed to avoid damage to equipment or destruction of equipment.
 - **Notes** - Include essential information of special importance, interest, or aid in job performance which should be remembered and would be otherwise difficult to find or incorporate into the text.
4. At the end of the procedure, "FOLLOW-ON TASKS" will list those additional tasks that must be performed to complete the procedure. The Follow-on Tasks for tachometer replacement are:
- Connect battery ground cable (TM 9-2320-280-20).
 - Start engine (TM 9-2320-280-10) and check operation of tachometer 650 RPM \pm 25 RPM at idle.
- e. Refer to the example pages for para. 3-18, Tachometer Replacement, as we review the following points:
1. **Modular Text:** Both pages of text and illustrations are to be used together. This manual was designed so that the two pages would be visible at once, making part identification and procedure sequence easy to follow.
 2. **Initial Setup:** Outlines task conditions.
 3. **Illustrations:** An exploded diagram of the component shows part locations, attachments, and spatial relationships. Cutaway views (part of the component "erased") show the location and orientation of screws and attachments.
- f. Your manual is easy to use once you understand its design. We hope it will encourage you to use your TM more often as an aid to maintenance support for the components of the EES kit.

CHAPTER 1 INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE

The purpose of this technical manual is to provide information on the operation, maintenance, and spare parts for the components of the Electrical Environmental System (EES) kit on the M1037 truck used in Traffic Jam AN/TLQ-17A(V)3 (HMMWV). This information is not contained in the M998-series vehicles technical manuals.

NOTE

To ensure accurate operation of status warning system, the following gage part numbers (PN) must be used: engine oil pressure gage, PN C5136382; coolant temperature gage, PN C5136383; and fuel gage, PN C5136384. Replace gages IAW TM 9-2320-280-20 if above PNs are not installed in vehicle.

The Traffic Jam AN/TIQ-17A(V)3 (HMMWV) is a mobile Electronic Countermeasures (ECM) system designed for surveillance or jamming of hostile communications networks. This manual will be used in conjunction with the following technical manuals:

- | | |
|---------------------|-----------------------|
| ● TM 9-2320-280-10 | ● TM 32-5865-301-10 |
| ● TM 9-2320-280-20 | ● TM 32-5865-301-24 |
| ● TM 9-2320-280-20P | ● TM 32-5865-301-24P |
| ● TM 9-2320-280-34 | ● TM 32-6130-005-23&P |
| ● TM 9-2320-280-34P | |

1-2. MAINTENANCE FORMS AND RECORDS

Department of the Army forms and procedures used for equipment maintenance will be prescribed by DA Pam 738-750, The Army Maintenance Management System (TAMMS).

1-3. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR's)

If your EES kit needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 Quality Deficiency Report (QDR). Mail it to us at: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-Q, Warren, MI 48397-5000. We'll send you a reply.

| |
|--|
| 1-4. NOMENCLATURE CROSS-REFERENCE LIST |
|--|

| <u>Common Name</u> | <u>Official Nomenclature</u> |
|--------------------------|---------------------------------------|
| Alternator bracket | Mounting bracket |
| Boot | Circuit breaker boot |
| Cable | Power cable assembly |
| Cable assembly W66 | Engine interface cable assembly (W66) |
| Coolant temperature gage | Temperature gauge assy |
| Drill bit | Twist drill |
| Dust cap | Dust cap assembly |
| EES kit | Electrical Environmental System Kit |
| Engine oil pressure gage | Oil pressure gauge assy |
| Fuel gage | Fuel level gauge assy |
| Guard | Circuit breaker guard |
| Hand throttle cable | Hand throttle cable assembly |
| Insulation template | Engine cover insulation template |
| "O" ring | Preformed packing "O" ring |
| Power interface box | Power interface box assembly |
| Quick disconnect | Quick couple assembly |
| Storage box | Storage box assembly |
| Surge tank assembly | Radiator overflow tank |
| Tach/hourmeter box | Tach/hourmeter assembly |
| Terminal | Feedthru terminal |
| Tie-strap | Strap, tie-down, electrical |
| 200 amp alternator | Accessory engine generator |
| Water pump pulley | Cone pulley |
| Wire no. 798 | A/C ground wire assembly |

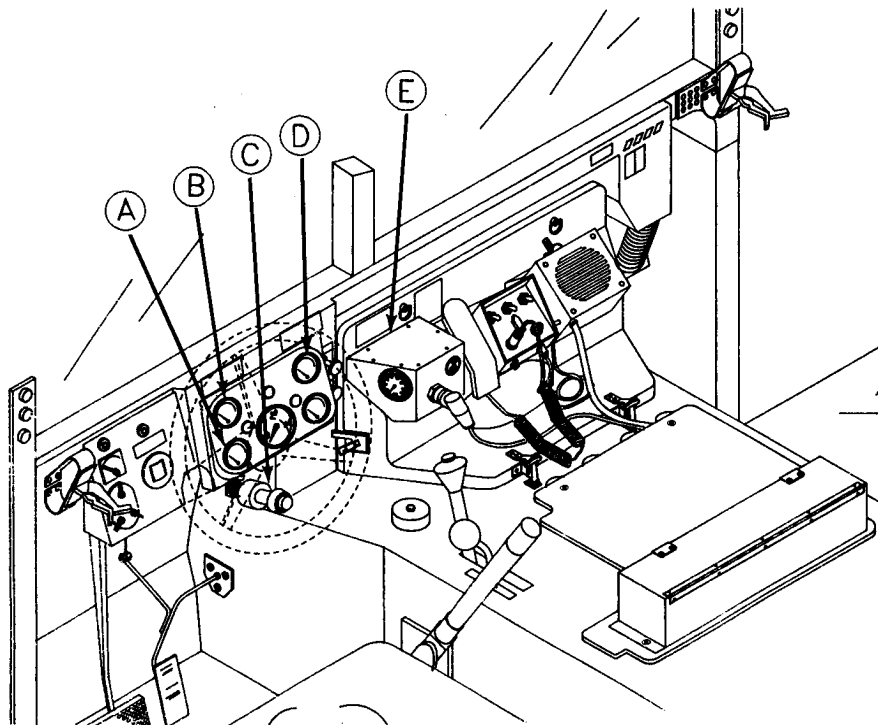
Section II. EQUIPMENT DESCRIPTION

1-5. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

The components of the EES kit are used to equip an M1037 truck for operation and use in the Traffic Jam AN/TLQ-17A(V)3 (HMMWV) system.

1-6. LOCATION AND DESCRIPTION OF INTERIOR COMPONENTS

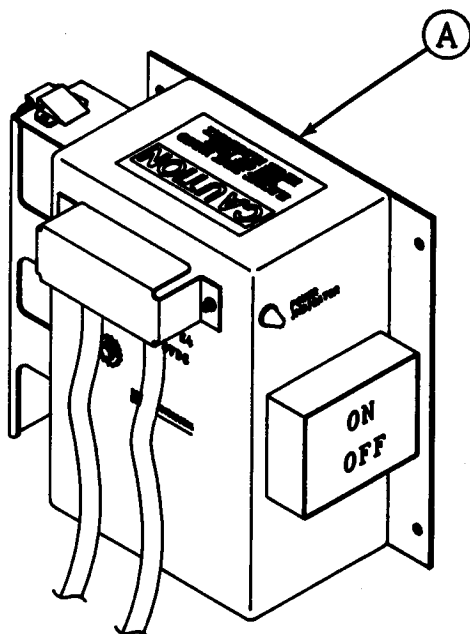
- A FUEL GAGE** - Located in instrument cluster and indicates fuel level. Must be PN C5136384 (see para 1-1).
- B ENGINE OIL PRESSURE GAGE** - Located in instrument cluster and indicates oil pressure while engine is running. Must be PN C5136382 (see para 1-1).
- C HAND THROTTLE CABLE** - Located in cab near instrument cluster and used in setting engine rpm while vehicle is in stationary position.
- D COOLANT TEMPERATURE GAGE** - Located in instrument cluster and indicates engine coolant temperature. Must be PN C5136383 (see para 1-1).
- E TACH/HOURMETER BOX** - Located in cab and attached to engine access cover and houses tachometer and hourmeter.



- | | | | |
|----------|---------------------------------|----------|---------------------------------|
| A | FUEL GAGE | D | COOLANT TEMPERATURE GAGE |
| B | ENGINE OIL PRESSURE GAGE | E | TACH/HOURMETER BOX |
| C | HAND THROTTLE CABLE | | |

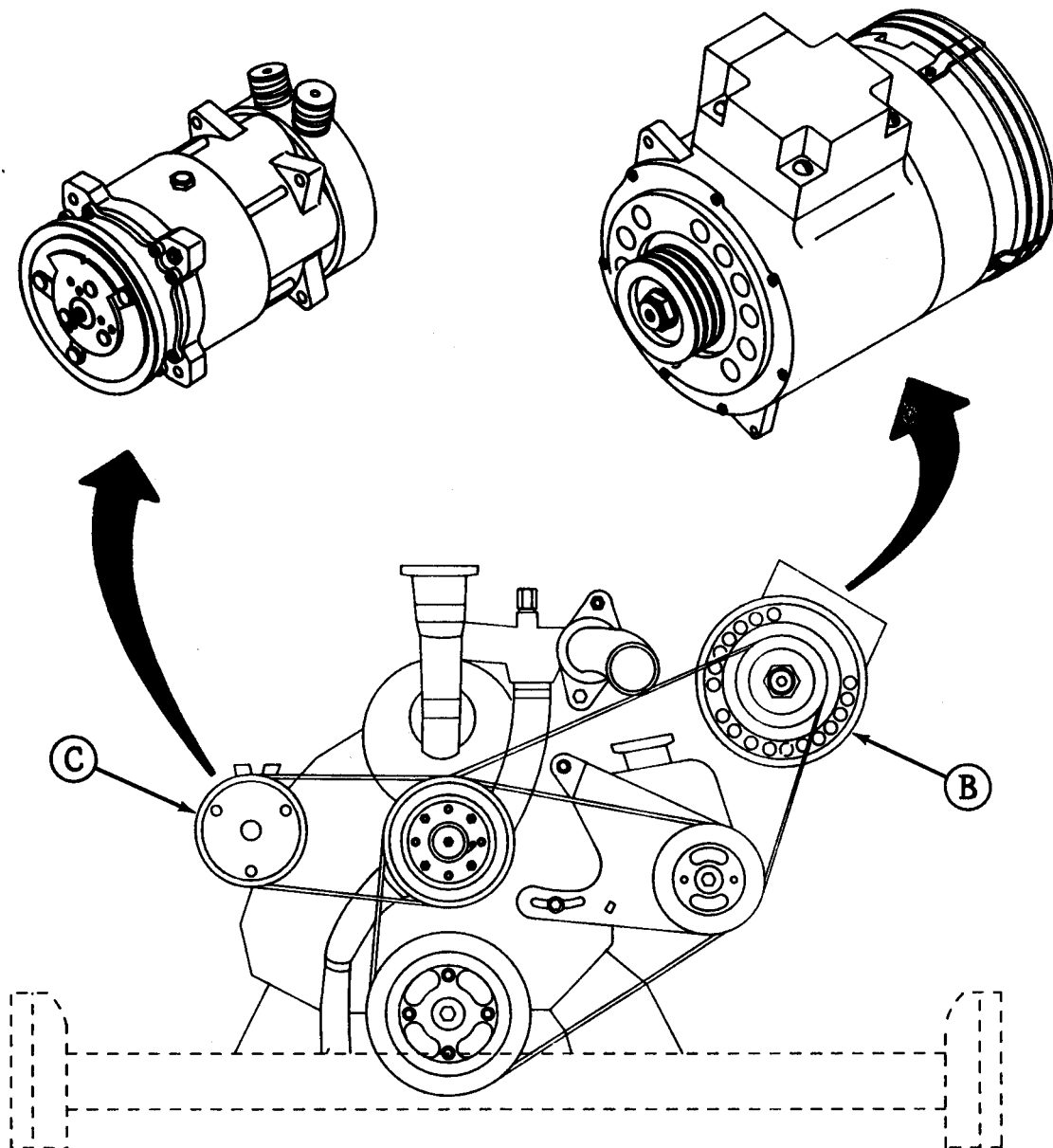
1-7. LOCATION AND DESCRIPTION OF EXTERIOR COMPONENTS

- A POWER INTERFACE BOX** - Located behind passenger seat on inside wall of truck bed and includes main power terminals and circuit breaker.
- B 200 AMP ALTERNATOR** - Located on engine and used to provide 200 amp service necessary for operation of the countermeasures equipment.
- C COMPRESSOR** - Located on engine and used for maintaining operation temperature of the countermeasures equipment.



A POWER INTERFACE BOX

1-7. LOCATION AND DESCRIPTION OF EXTERIOR COMPONENTS (Cent'd)



B 200 AMP ALTERNATOR

C COMPRESSOR

CHAPTER 2 OPERATING INSTRUCTIONS

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

2-1. KNOW YOUR CONTROLS AND INDICATORS

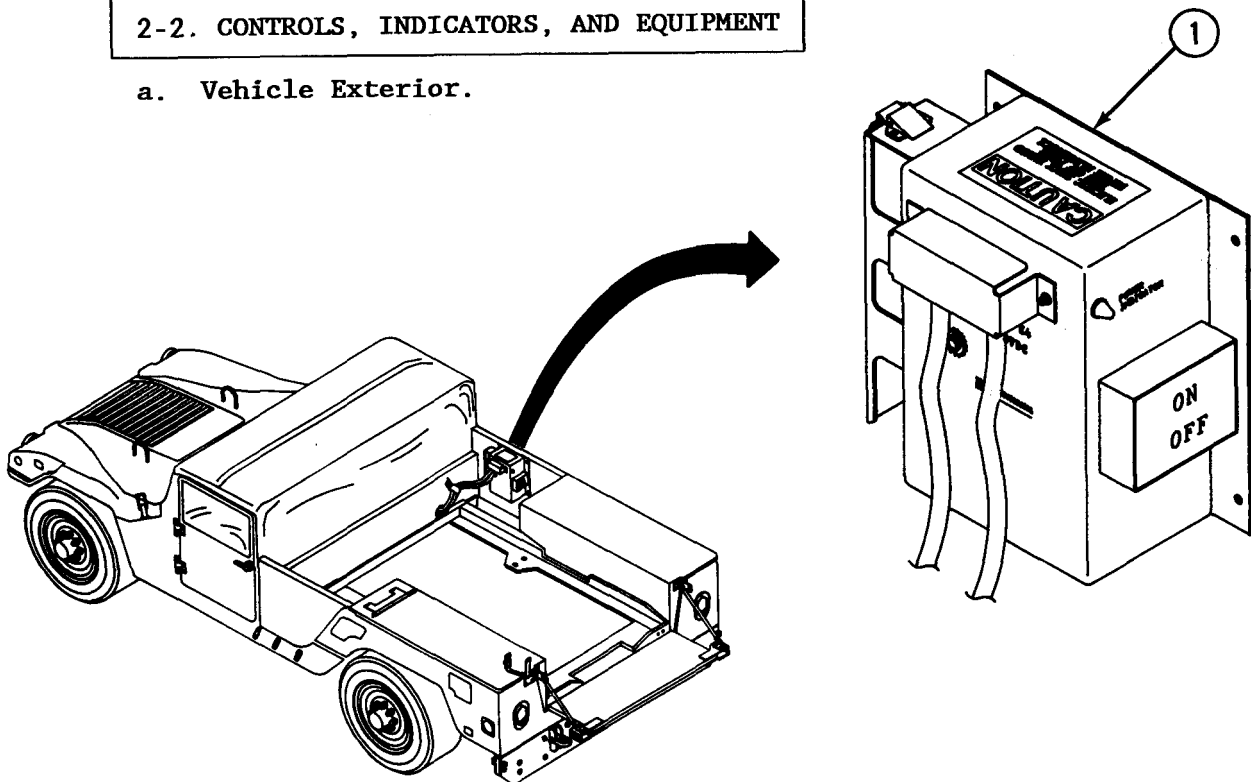
Before you attempt to operate your equipment, be sure you are familiar with the location and function of all controls and indicators. The location and function of your controls, indicators, and equipment are described in this

NOTE

The controls, indicators, and equipment in this section are applicable to the M1037 truck in the Traffic jam AN/TLQ-17A(V)3 (HMMWV) system.

2-2. CONTROLS, INDICATORS, AND EQUIPMENT

a. Vehicle Exterior.

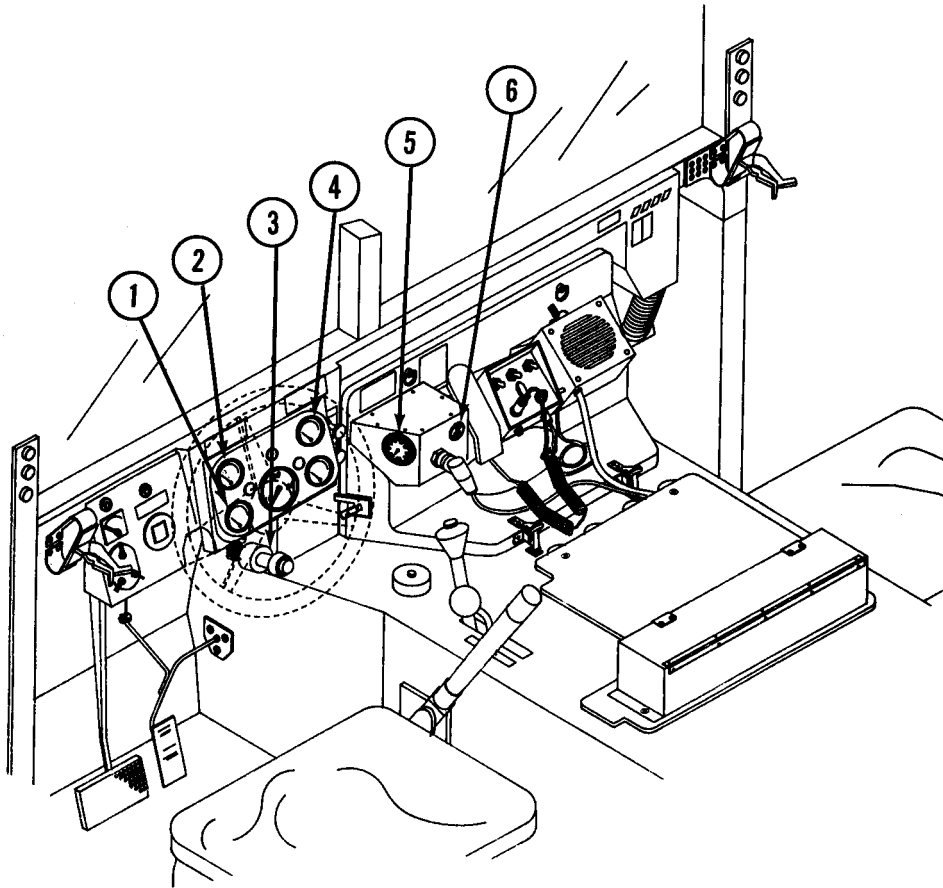


KEY ITEM AND FUNCTION

- | | |
|---|--|
| 1 | Power interface box used for input of electrical power from truck to S250 shelter. |
|---|--|

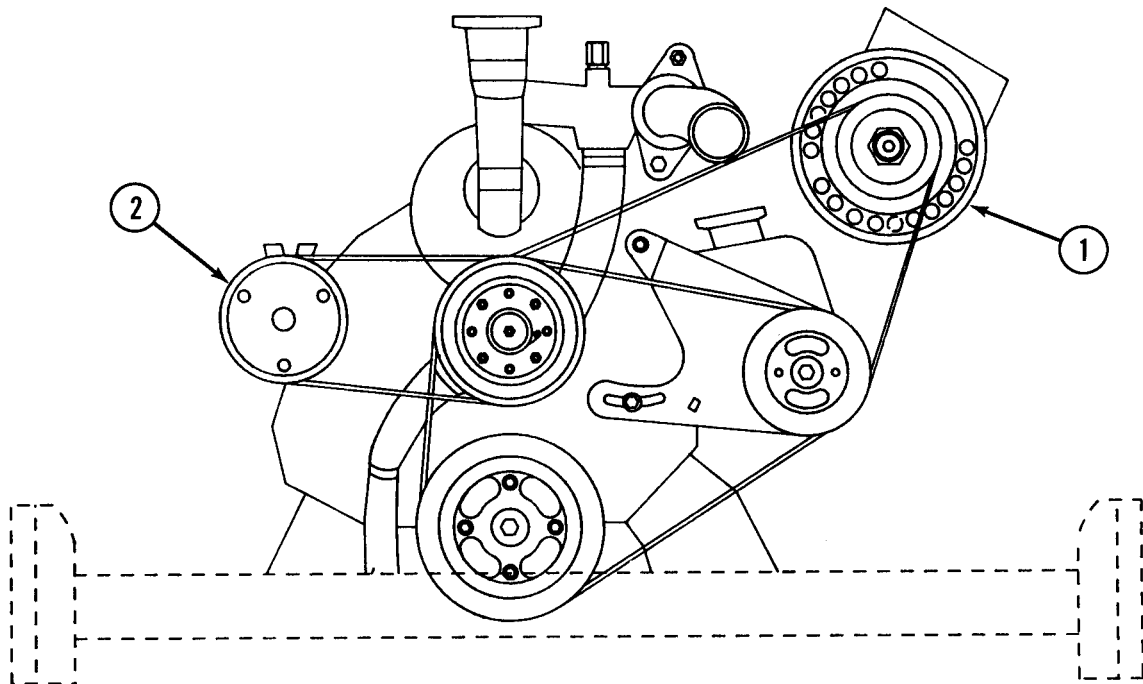
2-2. CONTROLS, INDICATORS, AND EQUIPMENT (Cont'd)

b. Driver's Compartment.



KEY ITEM AND FUNCTION

- 1 **Fuel gage** indicates amount of fuel in fuel tank. Must be PN C5136384 (see para 1-1).
- 2 **Engine oil pressure gage** indicates oil pressure when engine is running. Must be PN C5136382 (see para 1-1).
- 3 **Hand throttle cable** has a manual adjustment knob used to increase engine speed and to obtain maximum alternator output for communications/electrical requirements.
- 4 **Coolant temperature gage** indicates engine coolant temperature. Must be PN C5136383 (see para 1-1).
- 5 **Tachometer** is used to monitor the RPMs of the engine when throttle has been locked.
- 6 **Hourmeter** is used to monitor engine usage in time intervals of 1/10 of an hour.

2-2. CONTROLS, INDICATORS, AND EQUIPMENT (Cont'd)**c. Engine Compartment.****KEY ITEM AND FUNCTION**

1. **200 amp alternator** is rated at 28 volts, 200 amperes, with external regulator. The 200 amp alternator is used to provide 28 VDC to the converter for 110/205 VAC operation of the countermeasures equipment. Also used to assist and recharge the vehicle batteries during operation.
2. **Compressor** is used for air conditioning of S250 shelter which is critical in maintaining acceptable operational temperature of countermeasures equipment.

Section II. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-3. GENERAL

A permanent record of the services, repairs, and modifications to the components of the EES kit must be recorded. See DA Pam 738-750 for a list of the forms and records required.

2-4. CLEANING INSTRUCTIONS

a. Cleaning is a service performed by operator/crew to keep the components of the EES kit in a state of readiness. Facilities and material available to operators for cleaning can vary greatly in differing operating conditions. However, the components of the EES kit must be maintained in as clean a condition as available cleaning equipment, materials, and tactical conditions permit.

b. General Guidelines. For a general guide of cleaning materials see TM 9-2320-280-10. Detailed descriptions of cleaning materials are found in TM 9-247.

2-5. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

a. The operator preventive maintenance for the components of the EES kit is provided below in table 2-1. The checks and services are arranged in logical order requiring minimal time and effort on your part.

b. The columns on the PMCS schedule provide the following information:

(1) Item Number. Provides logical order for PMCS performance and is used as a source number for DA Form 2404, on which your PMCS results will be recorded.

(2) Intervals. Shows a bullet (•) opposite each item number to indicate when that check is to be performed. The bullet will be repeated when consecutive items are to be inspected during the same interval. Interval columns include:

(a) BEFORE (B) checks and services of PREVENTIVE MAINTENANCE must be performed prior to placing equipment in operation.

(b) DURING (D) checks and services of PREVENTIVE MAINTENANCE must be performed while the equipment is in operation.

(c) AFTER (A) checks and services of PREVENTIVE MAINTENANCE are performed upon completion of mission.

(d) WEEKLY (W) checks and services of PREVENTIVE MAINTENANCE are performed once every 7 days.

(e) MONTHLY (M) checks and services of PREVENTIVE MAINTENANCE are performed once every 30 days.

| |
|-----------------------------|
| 2-5. OPERATOR PMCS (Cont'd) |
|-----------------------------|

NOTE

PMCS for designated intervals are performed under usual operating conditions. PMCS must be performed more frequently when operating under unusual conditions.

(3) Item To Be Inspected. Lists the system, common name, or location of item to be inspected.

(4) Procedures. Provides instructions for inspecting, servicing, or cleaning, and in some cases, having item repaired at a higher level.

(5) Equipment Is Not Ready/Available. Tells when and why equipment cannot be used. If vehicle is not able to perform the mission, equipment will be reported as not ready/available. Refer to DA Pam 738-750.

c. Procedures.

(1) Refer to TM 9-232-280-10 for general vehicle PMCS, if necessary.

(2) Use DA Form 2404 (DA Pam 738-750) and report malfunctions to unit maintenance at once.

(3) Tools included with vehicle are to be used during PMCS. Wiping rags are needed to remove dirt or grease.

NOTE

Dirt, grease, oil, and debris may cover up a serious problem. Clean as you check and follow precautions.

Table 2-1. Operator/Crew Preventive Maintenance Checks and Services

NOTE: These checks are to be made in the order listed, within each interval.

B-Before D-During A-After W-Weekly M-Monthly

| ITEM NO. | INTERVAL | | | | | ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed | EQUIPMENT IS NOT READY/ AVAILABLE IF: |
|----------|----------|---|---|---|---|--|--|
| | B | D | A | W | M | | |
| 1 | | | | | | <p>TACH/HOURMETER BOX</p> <ul style="list-style-type: none"> a. Check tach/hourmeter box and mounting hardware for proper installation and tightness. Check both meters for secure mounting, cracks on face of glass, and scratches on scales. If repair or adjustment is required, notify unit maintenance. b. Check tach/hourmeter box for corrosion, dirt, grease, or fungus. If necessary, clean and remove grease, fungus, or ground-in dirt with wiping rags and detergent. Report corrosion to unit maintenance. | |
| 2 | | | | | | <p>HAND THROTTLE CABLE</p> <ul style="list-style-type: none"> a. Check hand throttle and mounting bracket for proper installation and tightness. Check throttle cable sheath for nicks, burns, or breaks. Check throttle release button to ensure hand throttle cable operates properly. If repair or adjustment is required, notify unit maintenance. b. Check hand throttle cable for corrosion, dirt, grease, or fungus. If necessary, clean and remove grease, fungus, or ground-in dirt with wiping rags and detergent. Report corrosion to unit maintenance. | |

Section III. OPERATION UNDER USUAL CONDITIONS**2-6. GENERAL**

This section provides instructions for operation of components of the EES kit under moderate temperature, humidity, and terrain conditions. For operations under unusual conditions, refer to section IV of this chapter.

2-7. OPERATION OF HAND THROTTLE CABLE**WARNING**

Do not use hand throttle cable as an automatic speed or cruise control. The hand throttle cable does not automatically disengage when brake is applied, resulting in increased stopping distances and possibly hazardous and unsafe operation.

a. Increase Setting on Hand Throttle Cable. To increase setting on hand throttle cable, slowly turn knob counterclockwise until desired RPM's are attained.

b. Decrease Setting on Hand Throttle Cable.

(1) To decrease setting slowly, turn knob clockwise until idle speed is attained.

(2) To decrease setting rapidly, push throttle button and push-in throttle knob until idle speed is attained.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS**2-8. GENERAL**

This section provides special instructions for operating and maintaining components of the EES kit under unusual conditions. Unusual conditions are extreme temperatures, humidity, and/or terrain. Special care in cleaning and lubrication must be taken in order to keep the components of the EES kit operational when operating under unusual conditions.

2-9. OPERATING IN EXTREME COLD OR SNOW

The hand throttle used in Traffic Jam AN/TLQ-17A(V)3 (HMMWV) is similar to the hand throttle in a standard M1037 vehicle. See TM 9-2320-280-10 for instructions on use of the hand throttle in cold weather starting below +32°F (0°C).

2-10. OPERATING IN RAINY OR HUMID CONDITIONS

Material exposed for long periods during rainy or humid conditions can corrode rapidly and/or fungus may develop. Frequent inspections and cleaning are necessary to maintain operational readiness of the components of the EES kit.

2-11. OPERATION IN EXTREME HEAT

See TM 9-2320-280-10 for vehicle instructions for operation in extreme heat.

CHAPTER 3 UNIT MAINTENANCE

Section I. LUBRICATION INSTRUCTIONS

3-1. LUBRICATION ACCORDING TO HIGH ENGINE IDLE TIME LOAD

Due to the mission profile, this vehicle operates under unusual conditions (high idle time load). Therefore, mileage identified by LO 9-2320-280-12 for the vehicle is not sufficient; mileage plus engine idle time (using hourmeter) must be used. One hour of engine idle time is equal to 30 miles of travel. The vehicle log should be updated daily to reflect engine idle time and equivalent mileage (idle time in hours multiplied by 30 miles equals the equivalent mileage).

Section II. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

3-2. COMMON TOOLS AND EQUIPMENT

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

3-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

Special tools, TMDE, and support equipment are listed and illustrated in appendix D of this manual.

3-4. REPAIR PARTS

Repair parts are listed and illustrated in appendix D of this manual.

Section III. SERVICE UPON RECEIPT

3-5. GENERAL

a. Upon receipt of new, used, or reconditioned components of the EES kit, you must determine if the equipment has been properly prepared for service. The following steps should be followed:

- (1) Inspect all assemblies, subassemblies, and accessories to be sure they are in proper working order.
- (2) Secure, clean, lubricate, or adjust as needed.
- (3) Check all equipment to be sure every item is present, in good condition, and properly mounted or stowed.

b. The operator will assist when performing service upon receipt inspections.

3-6. GENERAL INSPECTION AND SERVICING INSTRUCTIONS

- a. See Chapter 2 of this manual when checking equipment for proper operation.
- b. For all services and inspections, follow operator PMCS procedures given in Chapter 2 of this manual.

Section IV. UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

3-7. SCOPE

The best way to maintain the components of the EES kit covered by this manual is to inspect them on a regular basis so minor faults can be discovered and corrected before they result in serious damage, failure, or injury. This section contains systematic instructions for inspection and correction of the EES kit components to avoid costly repairs or major breakdowns. This is Preventive Maintenance Checks and Services (PMCS).

3-8. INTERVALS

a. Unit maintenance, assisted by operator/crew, will perform checks and services contained in table 3-1 at the following intervals:

- (1) **Semiannually (S).** Every 6 months or 3,000 miles (4,827 km), whichever comes first.
- (2) **Annually (A).** Every 12 months or 6,000 miles (9,654 km), whichever comes first.
- (3) **Biennially (B).** Every 24 months or 12,000 miles (19,308 km), whichever comes first.

b. Perform all (S) inspections in addition to (A) inspections at the time of the annual inspection. Perform all (A) and (S) inspections in addition to (B) inspections at the time of the biennial inspection.

3-9. REPORTING REPAIRS

All shortcomings of the components of the EES kit will be reported on DA Form 2404 (DA Pam 738-750), Equipment Inspection and Maintenance Worksheet, immediately after the PMCS, and before taking corrective action. All deficiencies of the components of the EES kit will be reported in the equipment record.

3-10. GENERAL SERVICE AND INSPECTION PROCEDURES

a. While performing specific PMCS procedures, make sure items are correctly assembled, secure, not worn, and serviceable as defined below:

(1) An item is **CORRECTLY ASSEMBLED** when it is in proper position and all parts are present.

(2) When wires, nuts, washers, hoses, or attaching hardware cannot be moved by hand, or wrench, they are **SECURE**.

(3) An item is **WORN** if there is too much play between joining parts or when marking data, warning, and caution plates are not readable.

(4) An item is **UNSERVICEABLE** if it is worn beyond repair and is likely to fail before the next scheduled inspection.

b. Refer to TM 9-232-280-10 for general vehicle cleaning instructions.

3-11. UNIT PMCS PROCEDURES

The unit preventive maintenance for the components of the EES kit is provided below in table 3-1. The checks and services listed are arranged in logical order requiring minimal time and effort on your part.

b. The columns on the PMCS schedule provide the following information:

(1) **Item Number.** Provides logical order for PMCS performance and is used as a source number for DA Form 2404, on which your PMCS results will be recorded.

(2) **Intervals.** Shows a bullet (o) opposite each item number to indicate when that check is to be performed. The bullet will be repeated when consecutive items are to be inspected during the same interval.

Interval columns include:

(a) **SEMIANNUALLY (S)** checks are to be performed every 6 months;

(b) **ANNUALLY (A)** checks are to be performed every year;

(c) **BIENNIALY (B)** checks are to be performed every 2 years.

NOTE

PMCS for designated intervals are performed under usual operating conditions. PMCS must be performed more frequently when operating under unusual conditions.

(3) **Item To Be Inspected.** Lists the system, common name, or location of item to be inspected.

(4) **Procedures.** Provides instructions for inspection, replacement, or adjustment, and in some cases, having item repaired at a higher level.

c. Refer to TM 9-232-280-20 for general vehicle service and inspection procedures.

Table 3-1. Unit Preventive Maintenance Checks and Services
 S-Semiannually A-Annually B-Biennially

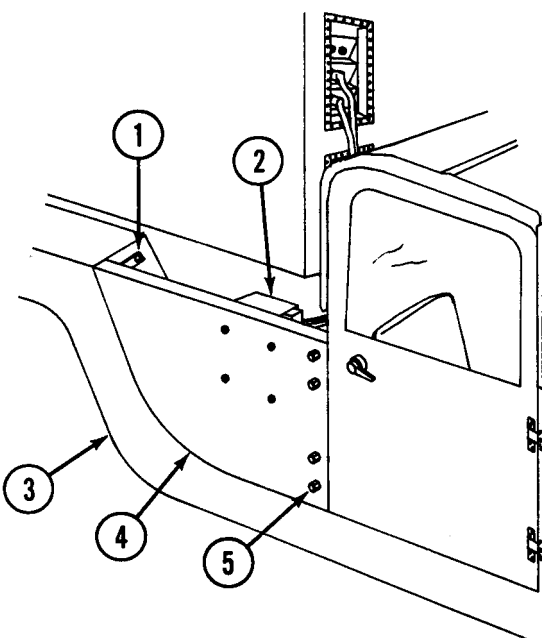
| ITEM NO. | INTERVAL | | | ITEM TO BE INSPECTED | PROCEDURES |
|----------|----------|---|---|----------------------|---|
| | S | A | B | | |
| 1 | | • | | POWER INTERFACE BOX | <p><u>WARNING</u></p> <ul style="list-style-type: none"> • Before inspecting power interface box, battery ground cable must be disconnected, or serious injury to personnel may occur. • Remove all jewelry such as rings, dog tags, bracelets, etc. If jewelry or disconnected battery ground cable contacts battery terminal, a direct short will result, causing injury to personnel or damage to equipment. <p>Loosen four special bolts (5) from fixed rear door (4). Loosen captive screw (1) and pull fixed rear door (4) away from truck (3) to access power interface box (2).</p>  |

Table 3-1. Unit Preventive Maintenance Checks and Services (Cont'd)
S-Semiannually A-Annually B-Biennially

| ITEM NO. | INTERVAL | | | ITEM TO BE INSPECTED | PROCEDURES |
|----------|----------|---|---|------------------------------|--|
| | S | A | B | | |
| 1 | | • | | POWER INTERFACE BOX (Cent'd) | <p>a. Inspect power cable connections for tightness. Tighten loose connections.</p> <p>b. Inspect terminals and power cables for corrosion, dirt, grease, or fungus. Clean with wire brush, wiping rags, and detergent.</p> <p>c. Inspect power cables for frayed, cracked, or worn insulation. Repair or replace damaged components.</p> <p>Install fixed rear door (4) against side of truck (3) and secure with captive screw (1) and four special bolts (5).</p> |
| 2 | | • | | COMPRESSOR | Inspect compressor for secure mounting and oil leakage. Tighten any loose mounting hardware (TM 9-2320-280-20), and report any oil leakage to DS maintenance. |
| 3 | | • | | 200 AMP ALTERNATOR | <p>a. Inspect 200 amp alternator and voltage regulator for proper installation and mounting.</p> <p>b. Inspect electrical wiring for broken strands, frayed, cracked, or worn insulation, and loose connections.</p> |
| | | • | | | |

Section V. UNIT TROUBLESHOOTING

3-12. GENERAL

a. Information in this section is for use by unit maintenance personnel in conjunction with, and as a supplement to, troubleshooting procedures in TM 9-2320-280-10 and TM 9-2320-280-20.

b. Unit troubleshooting, table 3-2, contains instructions that will help you diagnose and correct malfunctions of the components of the EES kit. The table also helps unit maintenance personnel identify difficulties that must be referred to direct support maintenance.

c. The troubleshooting procedures in this section cannot give all the answers or correct all malfunctions encountered. However, these procedures are an organized step-by-step study of a problem that directs tests and inspections towards the source of a problem and successful correction.

d. Before taking any action to correct a malfunction, the following rules should be followed:

(1) Question operator to obtain any information that might help you determine the cause of the problem.

(2) Never overlook the chance that the problem could be of simple origin. The problem could be corrected with minor adjustment.

(3) Use all senses to observe and locate troubles.

(4) Use test instruments or gages to help you determine and isolate the problem.

(5) Always isolate the system where the malfunction occurs and then locate the defective component.

(6) Review figure 3-1 to help in isolating the fault and understanding the equipment configuration.

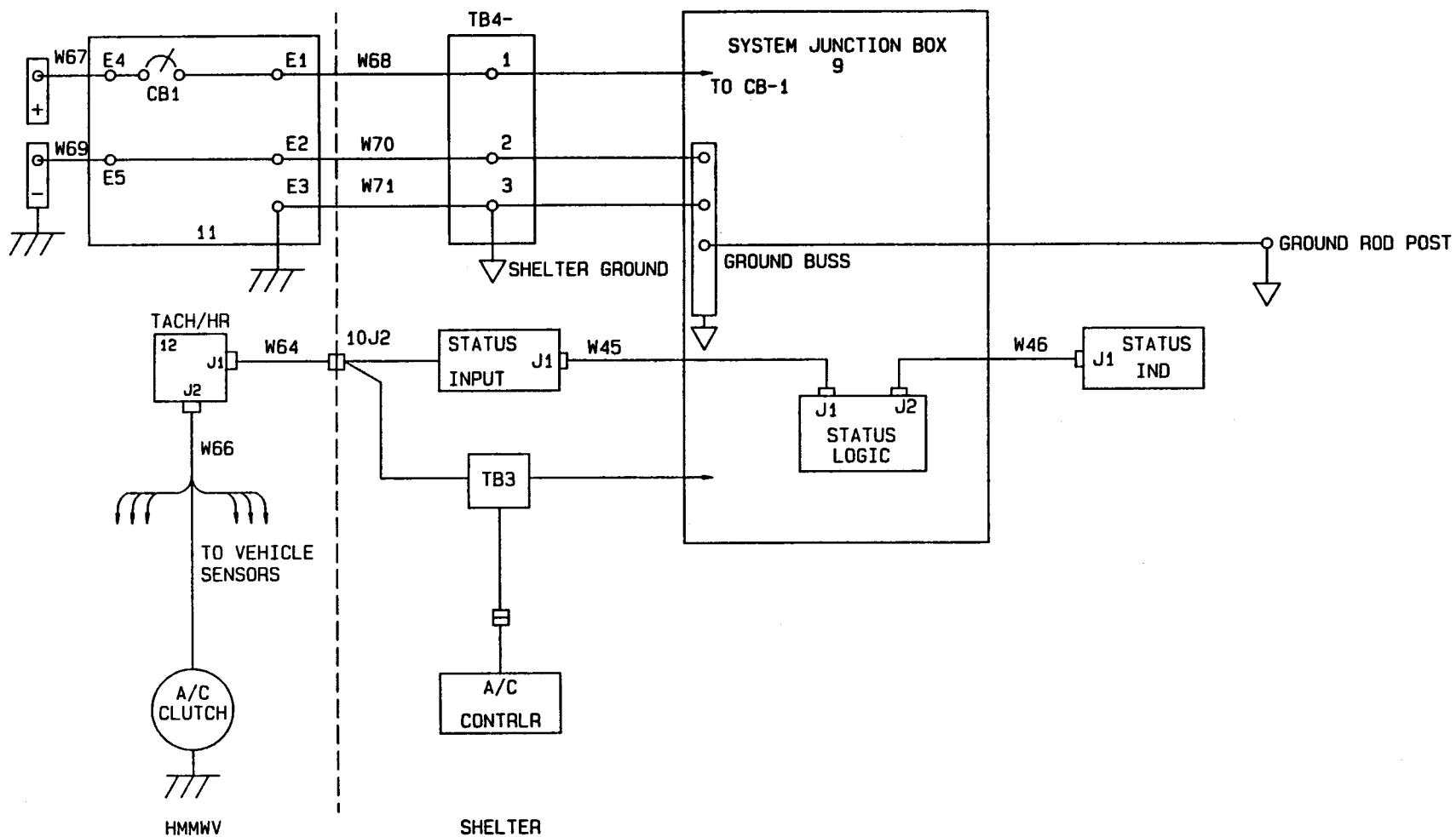


Figure 3-1. Status Warning System

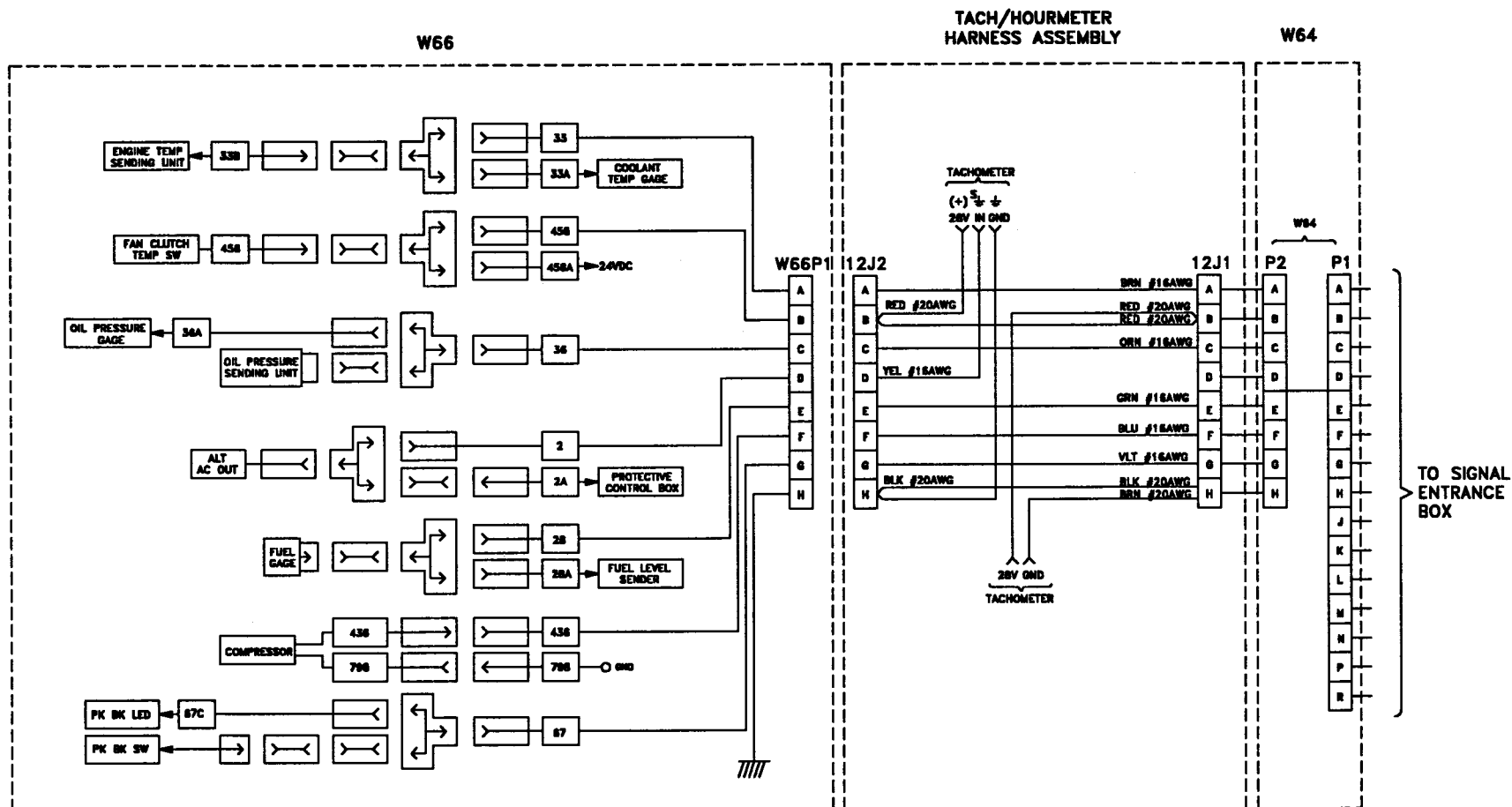


Figure 3-2. Engine Electrical Interface (W66)

| Engine Oil Pressure Gage | Voltage Range | Fuel Gage | Voltage Range |
|--------------------------|---------------|--------------|---------------|
| 10 | 0.10 - 0.45 | 1/8 | 0.20 - 0.70 |
| 20 | 0.25 - 0.75 | 1/4 | 0.65 - 1.05 |
| ALARM | .37 | ALARM | .87 |
| 30 | 0.55 - 1.00 | 3/8 | 1.00 - 1.40 |
| 40 | 0.80 - 1.25 | 1/2 | 1.25 - 1.80 |
| 50 | 1.00 - 1.45 | 5/8 | 1.55 - 2.10 |
| 60 | 1.15 - 1.65 | 3/4 | 1.80 - 2.35 |
| 70 | 1.35 - 1.85 | FULL | 2.15 - 2.70 |

| Coolant Temperature Gage | Voltage Range |
|--------------------------|---------------|
| below 120° | 13.0 - 15.0 |
| 140° | 12.4 - 13.3 |
| 160° | 11.7 - 12.6 |
| 180° | 11.0 - 11.9 |
| 200° | 10.3 - 11.2 |
| ALARM | 10.3 |
| 220° | 9.7 - 10.5 |
| above 220° | 10.5 or less |

Figure 3-3. Test Voltages for Gages in Status Warning System

3-13. UNIT TROUBLESHOOTING

UNIT TROUBLESHOOTING
SYMPTOM INDEX

| MALFUNCTION NO. | MALFUNCTION | TROUBLESHOOTING PROCEDURE PAGE |
|--------------------|-------------|--------------------------------------|
|--------------------|-------------|--------------------------------------|

TRUCK CAB COMPONENTS

- | | | |
|----|---|------|
| 1. | Hand throttle will not operate properly | 3-11 |
| 2. | Tachometer reading is incorrect | 3-12 |
| 3. | Hourmeter is not functioning | 3-13 |

SHELTER WARNING SYSTEM

- | | | |
|-----|---|------|
| 4. | With parking brake not set, parking brake dash light is off, and status indicator alarm and light do not come on | 3-13 |
| 5. | Engine oil pressure gage displays normal reading and status indicator alarm and light are on | 3-15 |
| 6. | Engine oil pressure gage displays no pressure reading and status indicator alarm and light are on | 3-16 |
| 7. | Coolant temperature gage displays normal reading and status indicator alarm and light are on | 3-18 |
| 8. | Coolant temperature gage displays no engine temperature reading and status indicator alarm and light are on | 3-19 |
| 9. | Coolant temperature gage displays no engine temperature reading and status indicator alarm and light do not come on | 3-21 |
| 10. | Fuel gage displays reading of more than 3/8-tank full and status indicator alarm and light are on | 3-22 |
| 11. | Fuel gage displays reading of less than an eighth tank full and status indicator alarm and light do not come on | 3-23 |

ELECTRICAL COMPONENTS

- | | | |
|-----|--|------|
| 12. | Shelter has no power and incandescent lamp on power interface box is not lit | 3-25 |
|-----|--|------|

Table 3-2. Unit Troubleshooting

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|--|--|-------------------|
| <hr/> | | |
| 1. HAND THROTTLE WILL NOT OPERATE PROPERLY | | |
| Step 1. | Start engine (TM 9-2320-280-10) and let engine come to normal idle speed of 650 RPM (\pm 25 RPM). | |
| Step 2. | Push hand throttle release button to ensure it moves freely. | |
| | If hand throttle release button does not move freely, replace hand throttle cable (para 3-15). | |
| | If hand throttle release button moves freely, go to step 3. | |
| Step 3. | Slowly turn hand throttle knob counterclockwise. Engine RPMs should start to increase. | |
| | If RPMs do not increase or hand throttle cable interferes with accelerator, replace hand throttle cable (para 3-15). | |
| | If RPMs increase, go to step 4. | |
| Step 4. | Return hand throttle knob to starting position by depressing hand throttle release button and pushing hand throttle knob down. | |
| | If RPMs return to normal, procedure is completed. | |
| | If RPMs do not return to normal, check adjustment of hand throttle cable (para 3-16). | |
| | If RPMs still do not return to normal, replace hand throttle cable (para 3-15). | |
| END OF TESTING | | |

Table 3-2. Unit Troubleshooting

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

2. TACHOMETER READING IS INCORRECT

Step 1. Connect STE/ICE-R to engine (TM 9-2320-280-20). Start engine (TM 9-2320-280-10) and let engine come to normal idle speed of 650 RPM (\pm 25 RPM).

Step 2. Check engine idle setting.

If engine idle setting is incorrect, adjust engine idle (TM 9-2320-280-20).

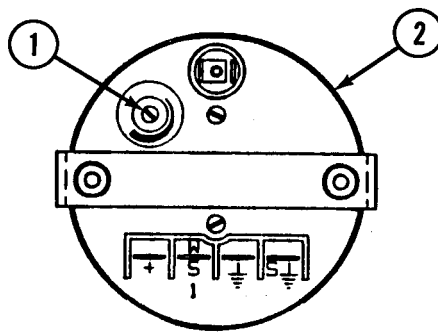
If engine idle setting is correct, go to step 3.

Step 3. Compare STE/ICE-R RPM rate to tachometer RPM rate.

If RPM rates agree, procedure is completed.

If RPM rates do not agree, go to step 4.

Step 4. Remove tach/hourmeter box cover from tach/hourmeter box. Adjust tachometer adjustment screw (1) on back of tachometer (2) until RPMs on STE/ICE-R and tachometer (2) agree.



If tachometer adjusts to correct RPMs, procedure is completed. Replace tach/hourmeter box cover on tach/hourmeter box.

If tachometer will not adjust to desired RPMs, replace tachometer (para 3-18).

END OF TESTING

Table 3-2. Unit Troubleshooting (Cont'd)

| MALFUNCTION | |
|--|---|
| TEST OR INSPECTION | CORRECTIVE ACTION |
| 3. HOURMETER IS NOT FUNCTIONING | |
| Step 1. Start engine (TM 9-2320-280-10) and let engine come to normal idle speed of 650 RPM (\pm 25 RPM). | |
| Step 2. Check hourmeter after 6 minutes. | |
| | If hourmeter advances 1/10 of an hour, procedure is completed. |
| | If hourmeter fails to advance 1/10 of an hour, go to step 3. |
| Step 3. Remove tach/hourmeter box cover. Check hourmeter leads for tight connections. | |
| | Tighten leads as necessary. Replace tach/hourmeter box cover and repeat Step 2. |
| | If hourmeter fails to advance 1/10 of an hour, replace hourmeter (para 3-19). |
| END OF TESTING | |
| 4. WITH PARKING BRAKE NOT SET, PARKING BRAKE DASH LIGHT IS OFF, AND STATUS INDICATOR ALARM AND LIGHT DO NOT COME ON (REFER TO FIGURES 3-1 THRU 3-3) | |
| NOTE | |
| <ul style="list-style-type: none"> • When measuring voltage, measure against ground. • When measuring +28 VDC, use \pm 2 VDC for tolerance. | |
| Step 1. Disconnect cable W64 from connector 12J1 on tach/hourmeter box. | |
| Step 2. Using multimeter, measure voltage at connector 12J1, pin "G", on tach/hourmeter box. | |
| | If multimeter displays about +28 VDC, go to step 3. |
| | If multimeter does NOT display about +28 VDC, go to step 5. |

Table 3-2. Unit Troubleshooting (Cont'd)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

4. WITH PARKING BRAKE NOT SET, PARKING BRAKE DASH LIGHT IS OFF, AND STATUS INDICATOR ALARM AND LIGHT DO NOT COME ON (Cont'd)

Step 3. Reconnect cable W64 to connector 12J1 on tach/hourmeter box . Disconnect cable W64 from connector on shelter.

Step 4. Using multimeter, measure voltage at cable W64, pin "G."

If multimeter displays about +28 VDC, refer to system manual for further troubleshooting

If multimeter does NOT display about +28 VDC, replace faulty cable assembly W64 (para 3-25).

Step 5. Reconnect cable W64 to connector 12J1 on tach/hourmeter box . Remove engine access cover and disconnect safety lanyard. Disconnect cable W66 from connector 12J2 on tach/hourmeter box.

Step 6. Using multimeter, measure voltage at cable W66, pin "G."

If multimeter displays about +28 VDC, replace faulty harness assembly (para 3-20).

If multimeter does NOT display about +28 VDC, go to step 7.

Step 7. Reconnect cable W66 to connector 12J2 on tach/hourmeter box .

Step 8. Under engine access cover, check "T" connection on cable assembly W66 at wire 67.

If "T" connection is loose, tighten connection.

If "T" connection is NOT loose, replace faulty "T" connector or cable assembly W66 (para 3-26).

END OF TESTING

Table 3-2. Unit Troubleshooting (Cont'd)

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|---|--|-------------------|
| 5. ENGINE OIL PRESSURE GAGE DISPLAYS NORMAL READING AND STATUS INDICATOR ALARM AND LIGHT ARE ON (REFER TO FIGURES 3-1 THRU 3-3) | | |
| <u>Condition:</u> | HMMWV engine has been running 10 to 15 minutes. Both light and alarm tests on status indicator are normal. | |
| NOTE | | |
| <ul style="list-style-type: none">• When measuring voltage, measure against ground.• Normal engine oil pressure is 25-50 psi.• Before starting procedure, see para 1-1. | | |
| Step 1. | Disconnect cable W64 from connector 12J1 on tach/hourmeter box. | |
| Step 2. | Using multimeter, measure voltage at connector 12J1, pin "C", on tach/hourmeter box. | |
| | If multimeter displays correct voltage (fig 3-3), go to step 3. | |
| | If multimeter does NOT display correct voltage (fig 3-3), go to step 5. | |
| Step 3. | Reconnect cable W64 to connector 12J1 on tach/hourmeter box. Disconnect cable W64 from connector on shelter. | |
| Step 4. | Using multimeter, measure voltage at cable W64, pin "C." | |
| | If multimeter displays correct voltage (fig 3-3), refer to system manual for further troubleshooting. | |
| | If multimeter does NOT display correct voltage (fig 3-3), replace faulty cable assembly W64 (para 3-25). | |
| Step 5. | Reconnect cable W64 to connector 12J1 on tach/hourmeter box. Remove engine access cover and disconnect safety lanyard. Disconnect cable W66 from connector 12J2 on tach/hourmeter box. | |
| Step 6. | Using multimeter, measure voltage at cable W66, pin "C." | |
| | If multimeter displays correct voltage (fig 3-3), replace faulty harness assembly (para 3-20). | |
| | If multimeter does NOT display correct voltage (fig 3-3), go to step 7. | |

Table 3-2. Unit Troubleshooting (Cont'd)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

5. ENGINE OIL PRESSURE GAGE DISPLAYS NORMAL READING AND STATUS INDICATOR ALARM AND LIGHT ARE ON (Cont'd)

Step 7. Reconnect cable W66 to connector 12J2 on tach/hourmeter box .

Step 8. Under engine access cover, check "T" connection on cable assembly W66 at wire 36.

If "T" connection is loose, tighten connection.

If "T" connection is NOT loose, replace faulty "T" connector or cable assembly W66 (para 3-26).

END OF TESTING

6. ENGINE OIL PRESSURE GAGE DISPLAYS NO PRESSURE READING AND STATUS INDICATOR ALARM AND LIGHT ARE ON (REFER TO FIGURES 3-1 THRU 3-3)

Condition: HMMWV engine has been running 10 to 15 minutes. Both light and alarm tests on status indicator are normal.

NOTE

- Normal oil pressure is 25-50 psi.
- Before starting procedure, see para 1-1.

Step 1. Disconnect cable W64 from connector 12J1 on tach/hourmeter box .

Step 2. Check engine oil pressure gage reading.

If engine oil pressure gage displays normal reading, go to step 3.

If engine oil pressure gage does NOT display normal reading, go to step 5.

Step 3. Reconnect cable W64 to connector 12J1 on tach/hourmeter box. Disconnect cable W64 from connector on shelter.

Table 3-2. Unit Troubleshooting (Cont'd)

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|---|---|--|
| 6. ENGINE OIL PRESSURE GAGE DISPLAYS NO PRESSURE READING AND STATUS INDICATOR ALARM AND LIGHT ARE ON (Cont'd) | | |
| | Step 4. Check engine oil pressure gage reading. | <p>If engine oil pressure gage displays normal reading, refer to system manual for further troubleshooting.</p> <p>If engine oil pressure gage does NOT display normal reading, replace faulty cable assembly W64 (para 3-25) .</p> |
| | Step 5. Reconnect cable W64 to connector 12J1 on tach/hourmeter box . Remove engine access cover and disconnect safety lanyard. Disconnect cable W66 from connector 12J2 on tach/hourmeter box. | |
| | Step 6. Check engine oil pressure gage reading. | <p>If engine oil pressure gage displays normal reading, go to step 7.</p> <p>If engine oil pressure gage does NOT display normal reading, replace faulty harness assembly (para 3-20).</p> |
| | Step 7. Reconnect cable W66 to connector 12J2 on tach/hourmeter box. Remove wire 36 on cable assembly W66 from "T" connector and attach wire 36A to oil pressure sending unit. | |
| | Step 8. Check engine oil pressure gage reading. | <p>If engine oil pressure gage displays normal reading, replace faulty "T" connector or cable assembly W66 (para 3-26).</p> <p>If engine oil pressure gage does NOT display normal reading, replace faulty oil pressure sending unit (TM 9-2320-280-20).</p> |

END OF TESTING

Table 3-2. Unit Troubleshooting (Cont'd)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

7. COOLANT TEMPERATURE GAGE DISPLAYS NORMAL READING AND STATUS INDICATOR ALARM AND LIGHT ARE ON (REFER TO FIGURES 3-1 THRU 3-3)

Condition: HMMWV engine has been running 10 to 15 minutes. Both light and alarm tests on status indicator are normal.

NOTE

- When measuring voltage, measure against ground.
- Normal coolant temperature is 190-230° F.
- Before starting procedure, see para 1-1.

Step 1. Disconnect cable W64 from connector 12J1 on tach/hourmeter box .

Step 2. Using multimeter, measure voltage at connector 12J1, pin "A", on tach/hourmeter box.

If multimeter displays correct voltage (fig 3-3), go to step 3.

If multimeter does NOT display correct voltage (fig 3-3), go to step 5.

Step 3. Reconnect cable W64 to connector 12J1 on tach/hourmeter box . Disconnect cable W64 from connector on shelter.

Step 4. Using multimeter, measure voltage at cable W64, pin "A."

If multimeter displays correct voltage (fig 3-3), refer to system manual for further troubleshooting.

If multimeter does NOT display correct voltage (fig 3-3), replace faulty cable assembly W64 (para 3-25).

Step 5. Reconnect cable W64 to connector 12J1 on tach/hourmeter box . Remove engine access cover and disconnect safety lanyard. Disconnect cable W66 from connector 12J2 on tach/hourmeter box.

Step 6. Using multimeter, measure voltage at cable W66, pin "A."

If multimeter displays correct voltage (fig 3-3), replace faulty harness assembly (para 3-20).

If multimeter does NOT display correct voltage (fig 3-3), go to step 7.

Table 3-2. Unit Troubleshooting (Cont'd)

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION****7. COOLANT TEMPERATURE GAGE DISPLAYS NORMAL READING AND STATUS INDICATOR ALARM AND LIGHT ARE ON (Cont'd)**

Step 7. Reconnect cable W66 to connector 12J2 on tach/hourmeter box .

Step 8. Check "T" connection on cable assembly W66 at wire 33.

If "T" connection is loose, tighten connection.

If "T" connection is NOT loose, replace faulty "T" connector or cable assembly W66 (para 3-26).

END OF TESTING

8. COOLANT TEMPERATURE GAGE DISPLAYS COLD ENGINE READING AND STATUS INDICATOR ALARM AND LIGHT ARE ON (REFER TO FIGURES 3-1 THRU 3-3)

Condition: HMMWV engine has been running 10 to 15 minutes. Both light and alarm tests on status indicator are normal.

NOTE

- When measuring voltage, measure against ground.
- Normal coolant temperature is 190-230° F.
- Before starting procedure, see para 1-1.

Step 1. Disconnect cable W64 from connector 12J1 on tach/hourmeter box .

Step 2. Check coolant temperature gage reading.

If coolant temperature gage displays normal reading, go to step 3.

If coolant temperature gage does NOT display normal reading, go to step 5.

Step 3. Reconnect cable W64 to connector 12J1 on tach/hourmeter box . Disconnect cable W64 from connector on shelter.

Table 3-2, Unit Troubleshooting (Cont'd)

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|--|---|--|
| 8. COOLANT TEMPERATURE GAGE DISPLAYS COLD ENGINE READING AND STATUS INDICATOR ALARM AND LIGHT ARE ON (Cont'd) | | |
| | Step 4. Check coolant temperature gage reading. | <p>If coolant temperature gage displays normal reading, refer to system manual for further troubleshooting.</p> <p>If coolant temperature gage does NOT display normal reading, replace faulty cable assembly W64 (para 3-25).</p> |
| | Step 5. Reconnect cable W64 to connector 12J1 on tach/hourmeter box . Remove engine access cover and disconnect safety lanyard. Disconnect cable W66 from connector 12J2 on tach/hourmeter box. | |
| | Step 6, Check coolant temperature gage reading. | <p>If coolant temperature gage displays normal reading, replace faulty harness assembly (para 3-20).</p> <p>If coolant temperature gage does NOT display normal reading, go to step 7.</p> |
| | Step 7. Reconnect cable W66 to connector 12J2 on tach/hourmeter box . | |
| | Step 8. Under engine access cover, check "T" connection on cable assembly W66 at wire 33, 33A, and 33B. | <p>If "T" connections are loose, tighten connections.</p> <p>If "T" connections are NOT loose, replace faulty "T" connector or cable assembly W66 (para 3-26).</p> |

END OF TESTING

Table 3-2. Unit Troubleshooting (Cont'd)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

9. COOLANT TEMPERATURES GAGE DISPLAYS COLD) ENGINE READING AND STATUS INDICATOR ALARM AND LIGHT DO NOT COME ON (REFER TO FIGURES 3-1 THRU 3-3)

Condition: HMMWV engine has been running 10 to 15 minutes. Both light and alarm tests on status indicator are normal.

NOTE

- When measuring voltage, measure against ground.
- Before starting procedure, see para 1-1.

Step 1. Disconnect cable W64 from connector 12J1 on tach/hourmeter box .

Step 2. Check alarm and TEMP light on status indicator.

If alarm and TEMP light is on, go to step 3.

If alarm and TEMP light is NOT on, fault is with system. Report fault to DS maintenance.

Step 3. Remove engine access cover and disconnect safety lanyard.

Step 4. Under engine access cover, check "T" connection on cable assembly W66 at wire 33A.

If "T" connection is loose, tighten connection.

If "T" connection is NOT loose, replace faulty "T" connector or electrical gage (TM 9-2320-280-20).

END OF TESTING

Table 3-2. Unit Troubleshooting (Cont'd)

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

10. FUEL GAGE DISPLAYS READING OF MORE THAN 3/8-TANK FULL AND STATUS INDICATOR ALARM AND LIGHT ARE ON (REFER TO FIGURES 3-1 THRU 3-3)

Condition: HMMWV engine has been running 10 to 15 minutes. Both light and alarm tests on status indicator are normal.

NOTE

- When measuring voltage, measure against ground.
- Before starting procedure, see para 1-1.

Step 1. Disconnect cable W64 from connector 12J1 on tach/hourmeter box.

Step 2. Using multimeter, measure voltage at connector 12J1, pin "E", on tach/hourmeter box.

If multimeter displays correct voltage (fig 3-3), go to step 3.

If multimeter does NOT display correct voltage (fig 3-3), go to step 5.

Step 3. Reconnect cable W64 to connector 12J1 on tach/hourmeter box. Disconnect cable W64 from connector on shelter.

Step 4. Using multimeter, measure voltage at cable W64, pin "E."

If multimeter displays correct voltage (fig 3-3), refer to system manual for further troubleshooting.

If multimeter does NOT display correct voltage (fig 3-3), replace faulty cable assembly W64 (para 3-25).

Step 5. Reconnect cable W64 to connector 12J1 on tach/hourmeter box. Remove engine access cover and disconnect safety lanyard. Disconnect cable W66 from connector 12J2 on tach/hourmeter box.

Table 3-2. Unit Troubleshooting (Cont'd)

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|---|---|---|
| 10. FUEL GAGE DISPLAYS READING OF MORE THAN 3/8-TANK FULL AND STATUS INDICATOR ALARM AND LIGHT ARE ON (Cent'd) | | |
| | Step 6. Using multimeter, measure voltage at cable W66, pin "E." | |
| | | If multimeter displays correct voltage (fig 3-3), replace faulty harness assembly (para 3-20). |
| | | If multimeter does NOT display correct voltage (fig 3-3), go to step 7. |
| | Step 7. Reconnect cable W66 to connector 12J2 on tach/hourmeter box . | |
| | Step 8. Check "T" connection on cable assembly W66 at wires 28 and 28A. | |
| | | If "T" connections are loose, tighten connections. |
| | | If "T" connections are NOT loose, replace faulty "T" connector or cable assembly W66 (para 3-26). |
| END OF TESTING | | |
| 11. FUEL GAGE DISPLAYS READING OF LESS THAN AN EIGHTH TANK FULL AND STATUS INDICATOR ALARM AND LIGHT DO NOT COME ON (REFER TO FIGURES 3-1 THRU 3-2) | | |
| | <u>Condition:</u> HMMWV engine has been running 10-15 minutes. Both light and alarm tests on status indicator are normal. | |
| | NOTE | |
| | <ul style="list-style-type: none"> ● When measuring voltage, measure against ground. ● Before starting procedure, see para 1-1. | |
| | Step 1. Disconnect cable W64 from connector 12J1 on tach/hourmeter box . | |
| | Step 2. Check status indicator alarm and fuel light. | |
| | | If alarm and fuel light are on, go to step 3. |
| | | If alarm and fuel light are not on, refer to system manual for further troubleshooting. |

Table 3-2. Unit Troubleshooting (Cont'd)

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|--|---|--|
| 11. FUEL GAGE DISPLAYS READING OF LESS THAN AN EIGHTH TANK FULL AND STATUS INDICATOR ALARM AND LIGHT DO NOT COKE ON (Cont'd) | | |
| | Step 3. Does fuel gage display less than 1/8-tank full? | <p>If fuel gage displays less than 1/8-tank full, go to step 4.</p> <p>If fuel gage displays more than 1/8-tank full, go to step 6.</p> |
| | Step 4. Remove engine cover. Disconnect cable assembly W66 from tach/hourmeter box. Check fuel gage display. | <p>If fuel gage displays less than 1/8-tank full, go to step 5.</p> <p>If fuel gage displays more than 1/8-tank full, replace faulty harness assembly (para 3-20).</p> |
| | Step 5. Disconnect wire no. 28 on cable W66 from "T" connection on fuel gage. Check fuel gage display. | <p>If fuel gage displays less than 1/8-tank full, replace electrical gage (TM 9-2320-280-20).</p> <p>If fuel gage displays more than 1/8-tank full, replace faulty cable assembly W66 (para 3-26).</p> |
| | Step 6. Reconnect cable W64 to connector 12J1 on tach/hourmeter box. Disconnect cable W64 from connector on shelter. Check fuel gage display. | <p>If fuel gage displays less than 1/8-tank full, refer to system manual for further troubleshooting.</p> <p>If fuel gage displays more than 1/8-tank full, replace faulty cable assembly W64 (para 3-25).</p> |

END OF TESTING

Table 3-2. Unit Troubleshooting (Cont'd)

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|-------------|--------------------|-------------------|
|-------------|--------------------|-------------------|

12. SHELTER HAS NO POWER AND INCANDESCENT LAMP ON POWER INTERFACE BOX IS NOT LIT

NOTE

- When measuring voltage, measure against ground.
- When measuring +28 VDC, use ± 2 VDC for tolerance.

WARNING

Serious injury could result if safety precautions are not followed when troubleshooting this equipment.

Step 1. Visually check circuit breaker on power interface box to ensure it is on.

If circuit breaker is on, go to step 2.

If circuit breaker is NOT on, go to step 4.

Step 2. Using multimeter, measure voltage on power interface box terminals 11E4 and 11E5.

If multimeter displays about +28 VDC, replace faulty power interface box (para 3-29).

If multimeter does NOT display about +28 VDC, go to step 3.

Step 3. Check voltage on battery terminals.

If multimeter displays about +28 VDC, replace faulty power cables (para 3-30).

If multimeter does NOT display about +28 VDC, replace faulty battery (TM 9-2320-280-20).

Step 4. Remove power cables W68, W70, and W71 from terminals on power interface box.

Table 3-2. Unit Troubleshooting (Cont'd)

| MALFUNCTION | TEST OR INSPECTION | CORRECTIVE ACTION |
|--|--------------------|-------------------|
| 12. SHELTER HAS NO POWER AND INCANDESCENT LAMP ON POWER INTERFACE BOX IS NOT LIT (Cont'd) | | |
| Step 5. Reset circuit breaker on power interface box. | | |
| If circuit breaker trips, refer faulty circuit breaker to DS maintenance for replacement (para 4-8), | | |
| If circuit breaker does NOT trip, refer to system manual for further troubleshooting. | | |
| END OF TESTING | | |

Section VI. TRUCK CAB COMPONENTS MAINTENANCE

3-14. TRUCK CAB COMPONENTS MAINTENANCE TASK SUMMARY

| TASK PARA | PROCEDURES | PAGE NO. |
|--------------|---------------------------------|-------------|
| 3-15. | Hand Throttle Cable Replacement | 3-28 |
| 3-16. | Hand Throttle Cable Adjustment | 3-30 |
| 3-17. | Tach/Hourmeter Box Replacement | 3-32 |
| 3-18. | Tachometer Replacement | 3-34 |
| 3-19. | Hourmeter Replacement | 3-36 |
| 3-20. | Harness Assembly Replacement | 3-38 |
| 3-21. | Safety Lanyard Replacement | 3-40 |
| 3-22. | Storage Box Replacement | 3-42 |
| 3-23. | Storage Box Repair | 3-44 |

3-15. HAND THROTTLE CABLE REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Manual Reference

TM 9-2320-280-10

Equipment Condition

Engine shut off (TM 9-2320-280-10)

a. Removal

1. Loosen nut (4) and star washer (5) on hand throttle cable (2) and detach hand throttle cable (2) from bracket (3).
2. Loosen nut (7) and washers (6) on hand throttle cable (2) and detach hand throttle cable (2) from bracket (1).
3. Remove hitch pin (10) and washer (11). Disconnect clevis (8) from accelerator rod (9) and remove hand throttle cable (2).

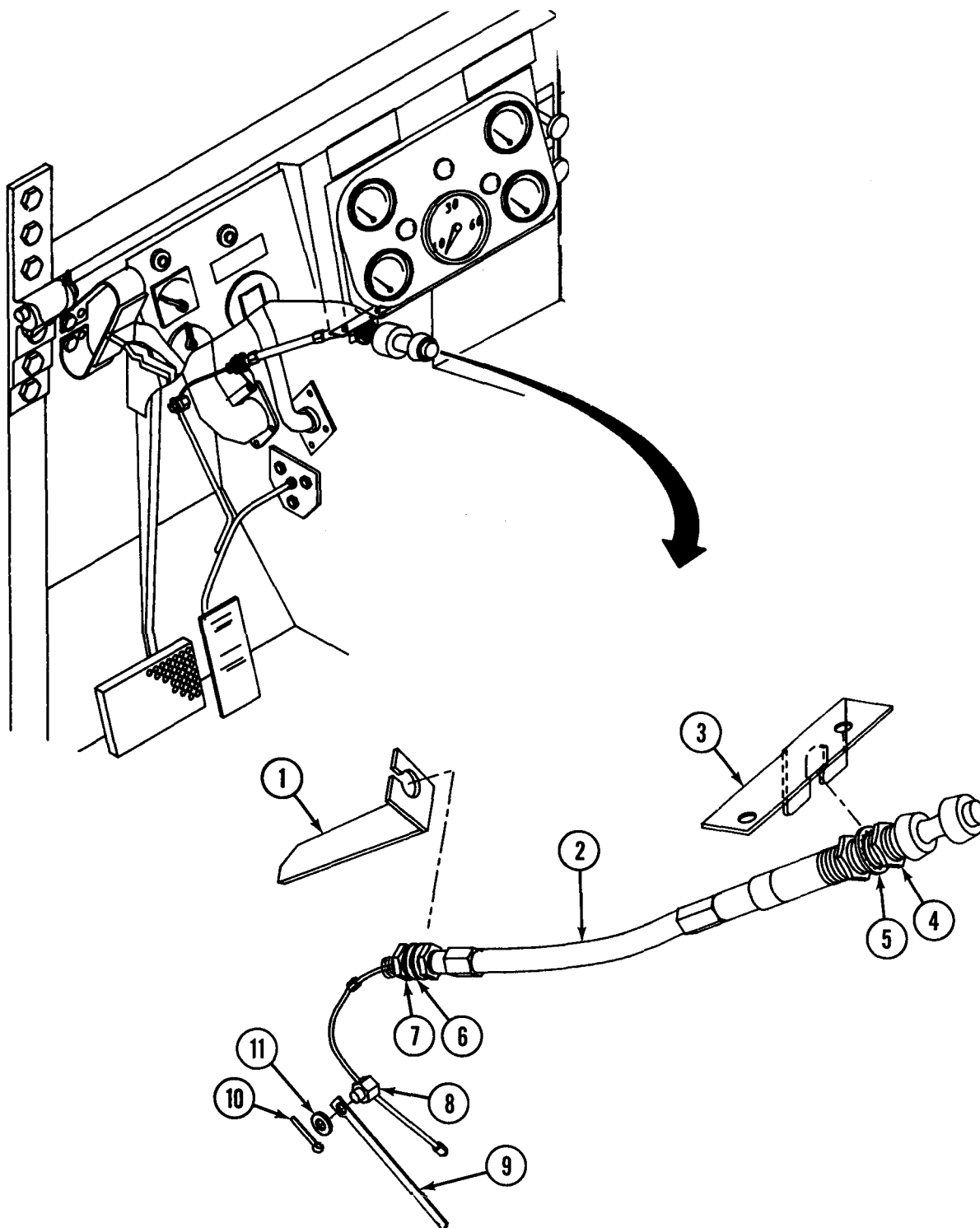
b. Installation

NOTE

Hand throttle cable should be positioned with
no tension on cable.

1. Install clevis (8) to accelerator rod (9) and secure with washer (11) and hitch pin (10).
2. Install hand throttle cable (2) to bracket (1) and secure with washers (6) and nut (7).
3. Install hand throttle cable (2) to bracket (3) and secure with star washer (5) and nut (4).

3-15. HAND THROTTLE CABLE REPLACEMENT (Cont'd)



FOLLOW-ON TASK: Start engine (TM 9-2320-280-10) and check operation of hand throttle cable. Adjust as necessary (para 3-16).

| |
|---|
| 3-16. HAND THROTTLE CABLE ADJUSTMENT |
|---|

This task covers:

a. Hand Throttle Cable Adjustment

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Manual Reference

TM 9-2320-280-10

| |
|--|
| a. Hand Throttle Cable Adjustment |
|--|

NOTE

Normal idle is 650 RPM (\pm 25 RPM).

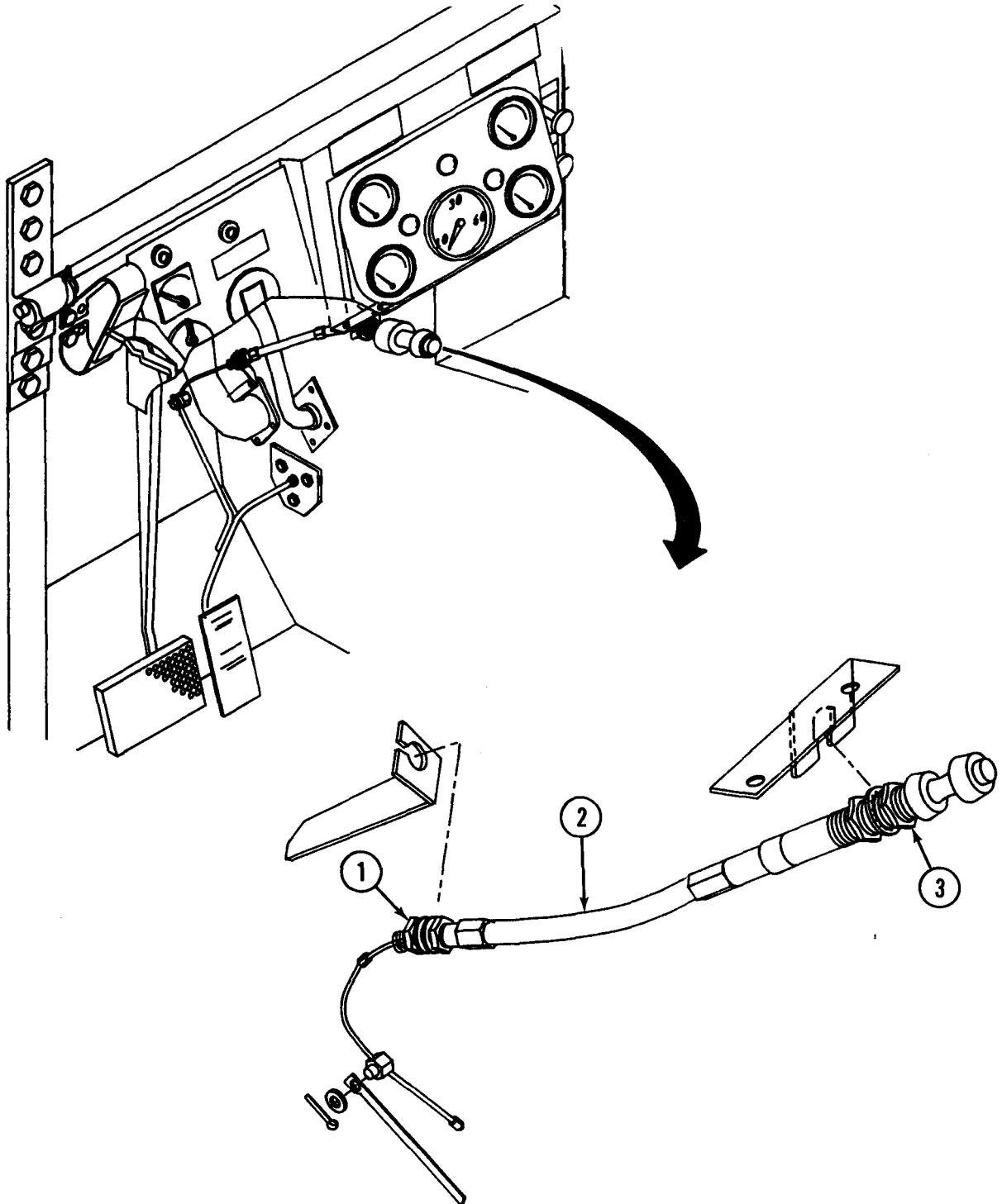
1. Start engine (TM 9-2320-280-10) and let engine come to idle.
2. Note RPM and shut engine off (TM 9-2320-280-10).

NOTE

Hand throttle cable should be positioned with
no tension on cable.

3. Loosen nuts (1) and (3) and move hand throttle cable (2) until desired position is obtained.
4. Tighten nuts (1) and (3) to secure hand throttle cable (2) in correct position.
5. Start engine (TM 9-2320-280-10) and let engine come to idle. Idle speed and operation of hand throttle cable (2) should be correct. If incorrect, repeat steps 2 thru 4 or refer to table 3-2, Troubleshooting malfunction 1.

3-16. HAND THROTTLE CABLE ADJUSTMENT (Cont'd)



3-17. TACH/HOURMETER BOX REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Manual Reference

TM 9-2320-280-10
TM 9-2320-280-20

Equipment Condition

Materials/Parts

Two locknuts P/N MS21044C3

Battery ground cable disconnected
(TM 9-2320-280-20)

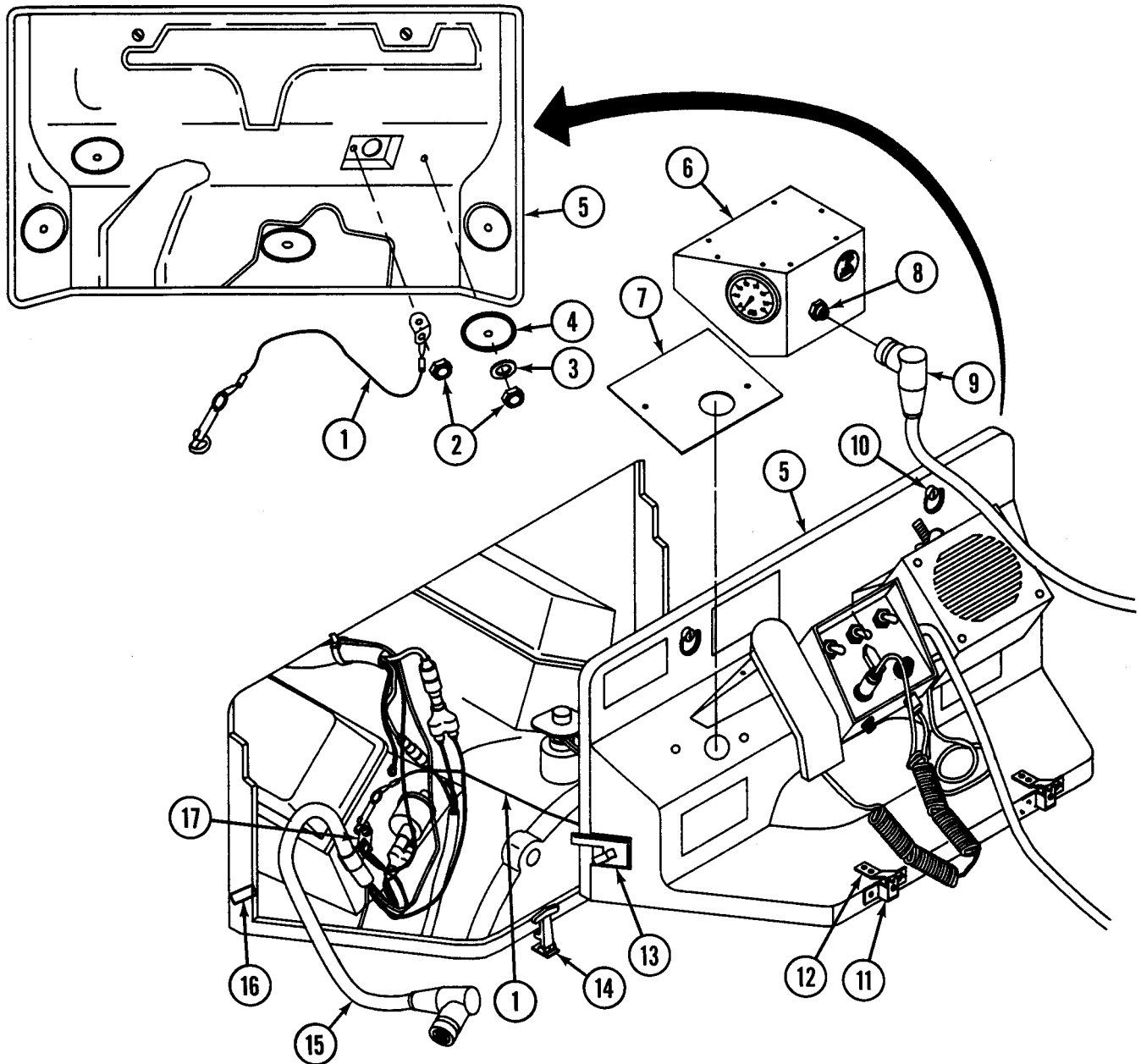
a. Removal

1. Disconnect cable assembly W64 (9) from connector 12J1 (8).
2. Unlatch two flexible latches (14) from keepers (12) on engine access cover holddown brackets (11).
3. Unlatch two engine access cover holddown latches (13) from engine access cover holddown strikes (16).
4. Turn two ring studs (10) and pull engine access cover (5) out until end of safety lanyard (1) is reached.
5. Disconnect cable assembly W66 (15) from connector on back of tach/hourmeter box (6).
6. Unhook safety lanyard (1) from safety tab (17).
7. Remove locknuts (2), washer (3), washer (4), safety lanyard (1), tach/hourmeter box (6) and tach/hourmeter seal (7) from engine access cover (5). Discard locknuts (2).

b. Installation

1. Install tach/hourmeter seal (7), tach/hourmeter box (6), and safety lanyard (1) to engine access cover (5). Secure with washer (4), washer (3) and locknuts (2).
2. Hook safety lanyard (1) onto safety tab (17).
3. Connect cable assembly W66 (15) to connector on back of tach/hourmeter box (6).
4. Install engine access cover (5) and secure with two ring studs (10).
5. Secure two engine access cover holddown latches (13) to engine access cover holddown strikes (16).
6. Secure two flexible latches (14) to keepers (12) on engine access cover holddown brackets (11).
7. Connect cable assembly W64 (9) to connector 12J1 (8).

3-17. TACH/HOURMETER BOX REPLACEMENT (Cont'd)



- FOLLOW-ON TASKS:
- Connect battery ground cable (TM 9-2320-280-20).
 - Start engine (TM 9-2320-280-10) and check operation at idle of tach/hourmeter box. Tachometer should display 650 ± 25 RPM and hourmeter should advance 0.1 hours for 6 minutes of operation.

3-18. TACHOMETER REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Materials/Parts

Seven lockwashers
P/N MS35338-137
One O-ring P/N MS9021-236

Manual Reference

TM 9-2320-280-10

TM 9-2320-280-20

Equipment Condition

Battery ground cable disconnected
(TM 9-2320-280-20)

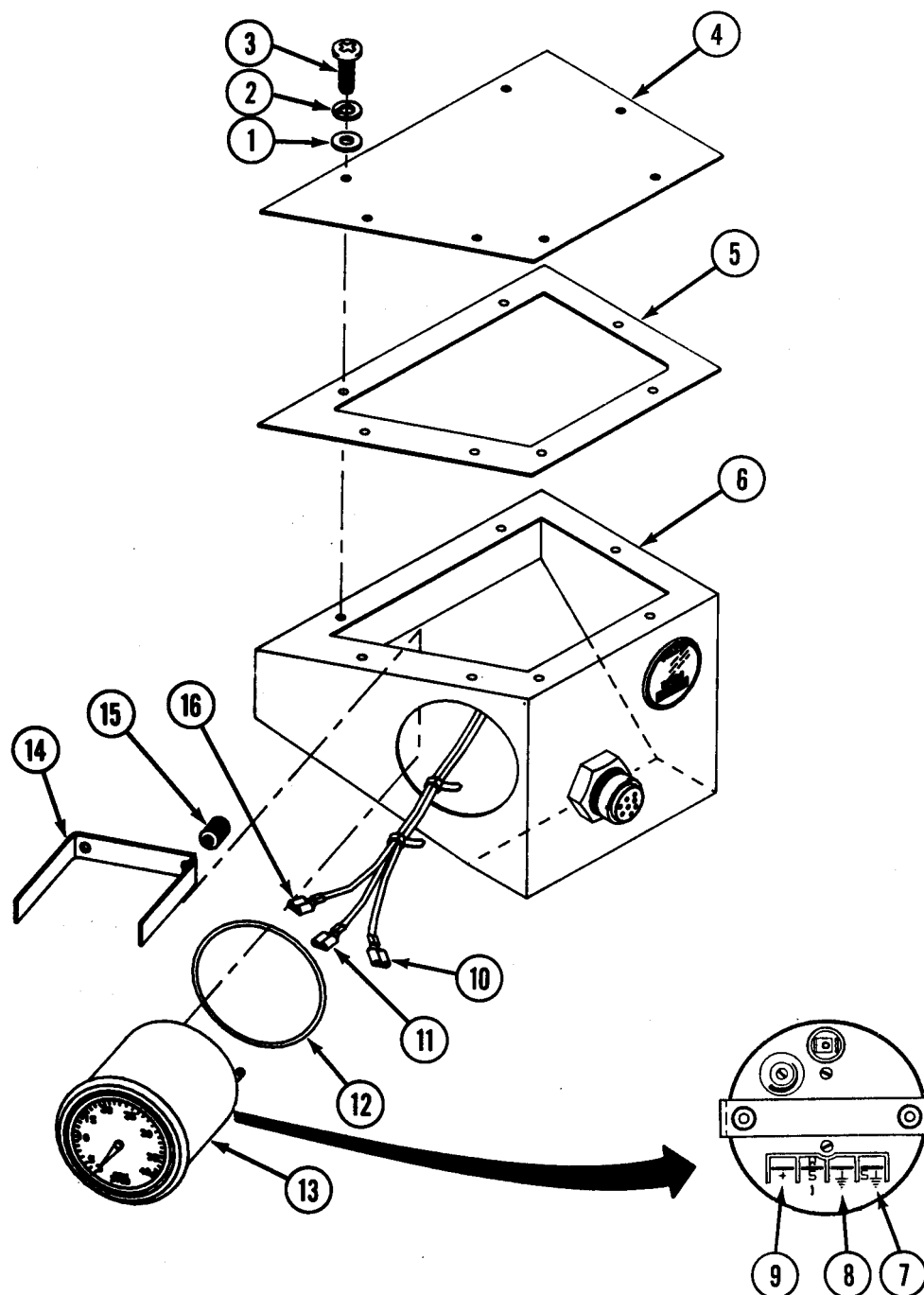
a. Removal

1. Remove seven screws (3), lockwashers (2), and washers (1) from tach/hourmeter box cover (4). Discard lockwashers (2).
2. Remove tach/hourmeter box cover (4) and gasket (5) from tach/hourmeter box (6).
3. Remove two knurled mounting nuts (15) and bracket (14) from tachometer (13) and remove tachometer (13) and O-ring (12) from tach/hourmeter box (6). Discard O-ring (12).
4. Disconnect leads (10), (11), and (16) from tachometer (13).

b. Installation

1. Install O-ring (12) to tachometer (13).
2. Connect leads to tachometer (13) as follows:
 - a. Red lead (10) to connector (9),
 - b. Black lead (11) to connector (8),
 - c. Yellow lead (16) to connector (7).
3. Install tachometer (13) and bracket (14) on tach/hourmeter box (6) and secure with two knurled mounting nuts (15).
4. Install gasket (5) and tach/hourmeter box cover (4) on tach/hourmeter box (6) and secure with seven washers (1), lockwashers (2), and screws (3).

3-18. TACHOMETER REPLACEMENT (Cont'd)



- FOLLOW-ON TASKS:
- Connect battery ground cable (TM 9-2320-280-20).
 - Start engine (TM 9-2320-280-10) and check operation of tachometer 650 ± 25 RPM at idle.

3-19. HOURMETER REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Materials/Parts

Seven lockwashers
P/N MS35338-137
One "O" ring P/N MS9021-136

Manual Reference

TM 9-2320-280-10
TM 9-2320-280-20

Equipment Condition

Battery ground cable disconnected
(TM 9-2320-280-20)

NOTE

Tag leads for installation.

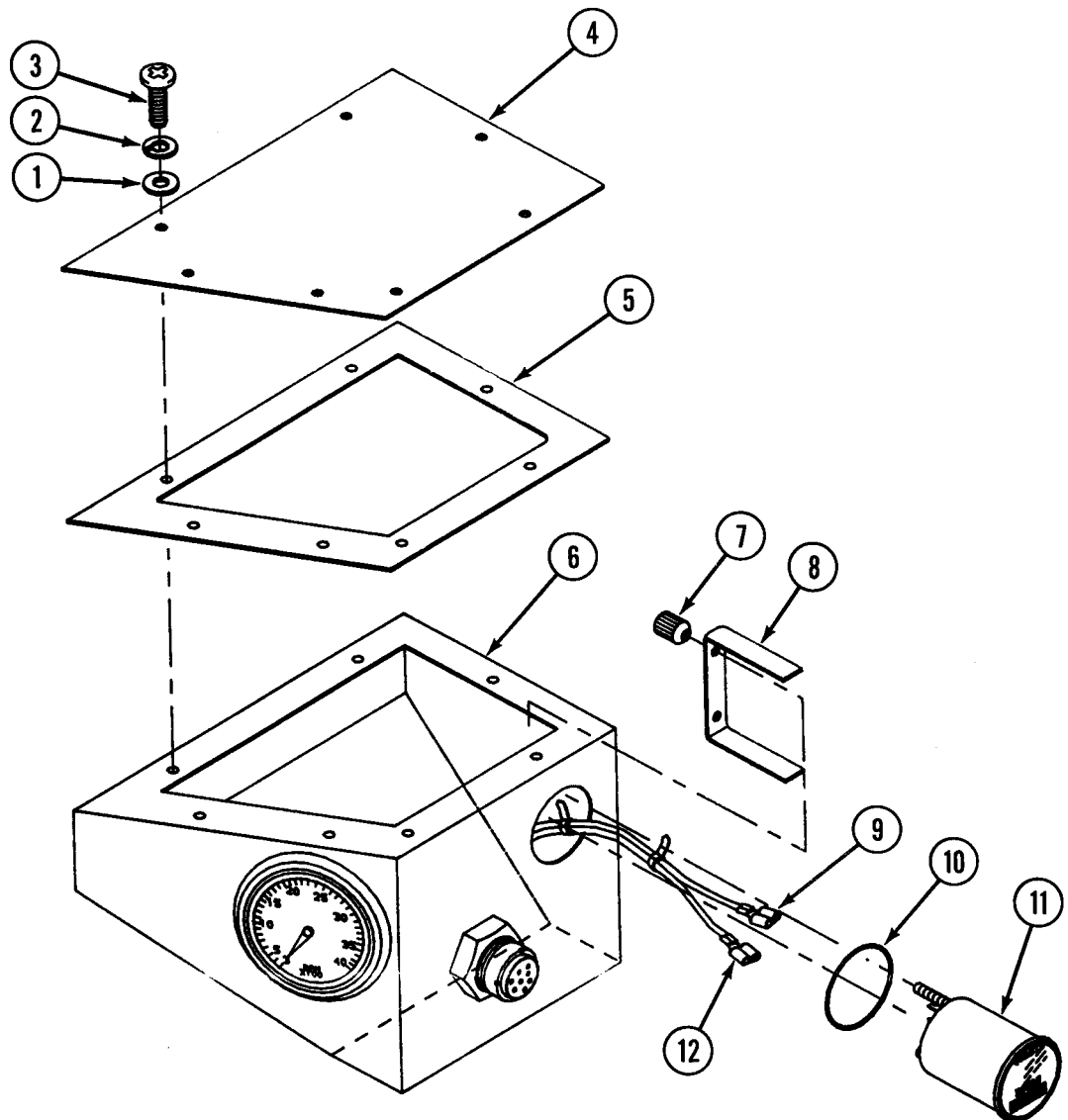
a. Removal

1. Remove seven screws (3), lockwashers (2), and washers (1) from tach/hourmeter box cover (4). Discard lockwashers (2).
2. Remove tach\hourmeter box cover (4) and gasket (5) from tach/hourmeter box (6).
3. Disconnect leads (9) and (12) from hourmeter (11).
4. Remove two knurled mounting nuts (7) and bracket (8) from hourmeter (11) and remove hourmeter (11) and O-ring (10) from tach/hourmeter box (6). Discard O-ring (10).

b. Installation

1. Install O-ring (10), hourmeter (11), and bracket (8) on tach/hourmeter box (6) and secure with two knurled mounting nuts (7).
2. Connect leads (9) and (12) to hourmeter (11).
3. Install gasket (5) and tach/hourmeter box cover (4) on tach/hourmeter box (6) and secure with seven washers (1), lockwashers (2), and screws (3).

3-19. HOURMETER REPLACEMENT (Cont'd)



- FOLLOW-ON TASKS:
- Connect battery ground cable (TM 9-2320-280-20).
 - Start engine (TM 9-2320-280-10) and check operation. Hourmeter should advance 0.1 hour after 6 minutes of operation.

3-20. HARNESS ASSEMBLY REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Materials/Parts

Seven lockwashers P/N MS35338-137

Manual Reference

TM 9-2320-280-10

Equipment Condition

Tach/hourmeter box removed
(para 3-17a)

NOTE

Tag leads for installation.

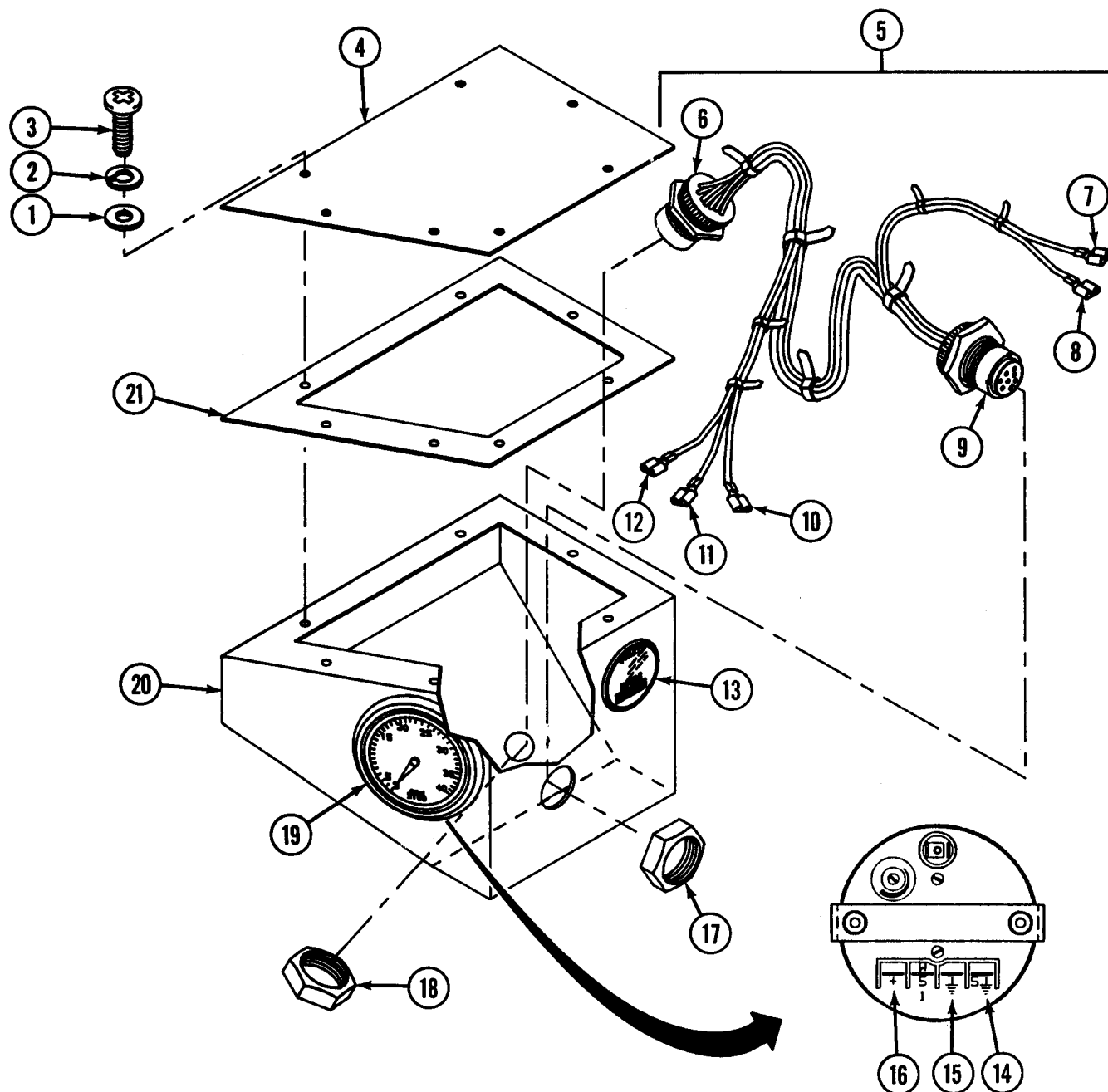
a. Removal

1. Remove seven screws (3), lockwashers (2), and washers (1) from tach/hourmeter box cover (4). Discard lockwashers (2).
2. Remove tach/hourmeter box cover (4) and gasket (21) from tach/hourmeter box (20).
3. Disconnect leads (7) and (8) from hourmeter (13). Disconnect leads (12), (10), and (11) from tachometer (19).
4. Remove nut (17) from connector 12J1 (9) and nut (18) from connector 12J2 (6). Remove harness assembly (5) from tach/hourmeter box (20).

b. Installation

1. Install connector 12J1 (9) to tach/hourmeter box (20) and secure with nut (17). Install connector 12J2 (6) to tach/hourmeter box (20) and secure with nut (18).
2. Connect leads (7) and (8) to hourmeter (13).
3. Connect leads to tachometer (19) as follows:
 - a. Red lead (10) to connector (16),
 - b. Black lead (11) to connector (15),
 - c. Yellow lead (12) to connector (14).
4. Install gasket (21) and tach/hourmeter box cover (4) on tach/hourmeter box (20) and secure with seven washers (1), lockwashers (2), and screws (3).

3-20. HARNESS ASSEMBLY REPLACEMENT (Cont'd)



- FOLLOW-ON TASKS:
- Install tach/hourmeter box (para 3-17b).
 - Start engine (TM 9-2320-280-10) and check operation at idle of tach/hourmeter box. Tachometer should display 650 ± 25 RPM and hourmeter should advance 0.1 hours for 6 minutes of operation.

3-21. SAFETY LANYARD REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Materials/Parts

One locknut P/N MS21044C3

Manual Reference

TM 9-2320-280-10

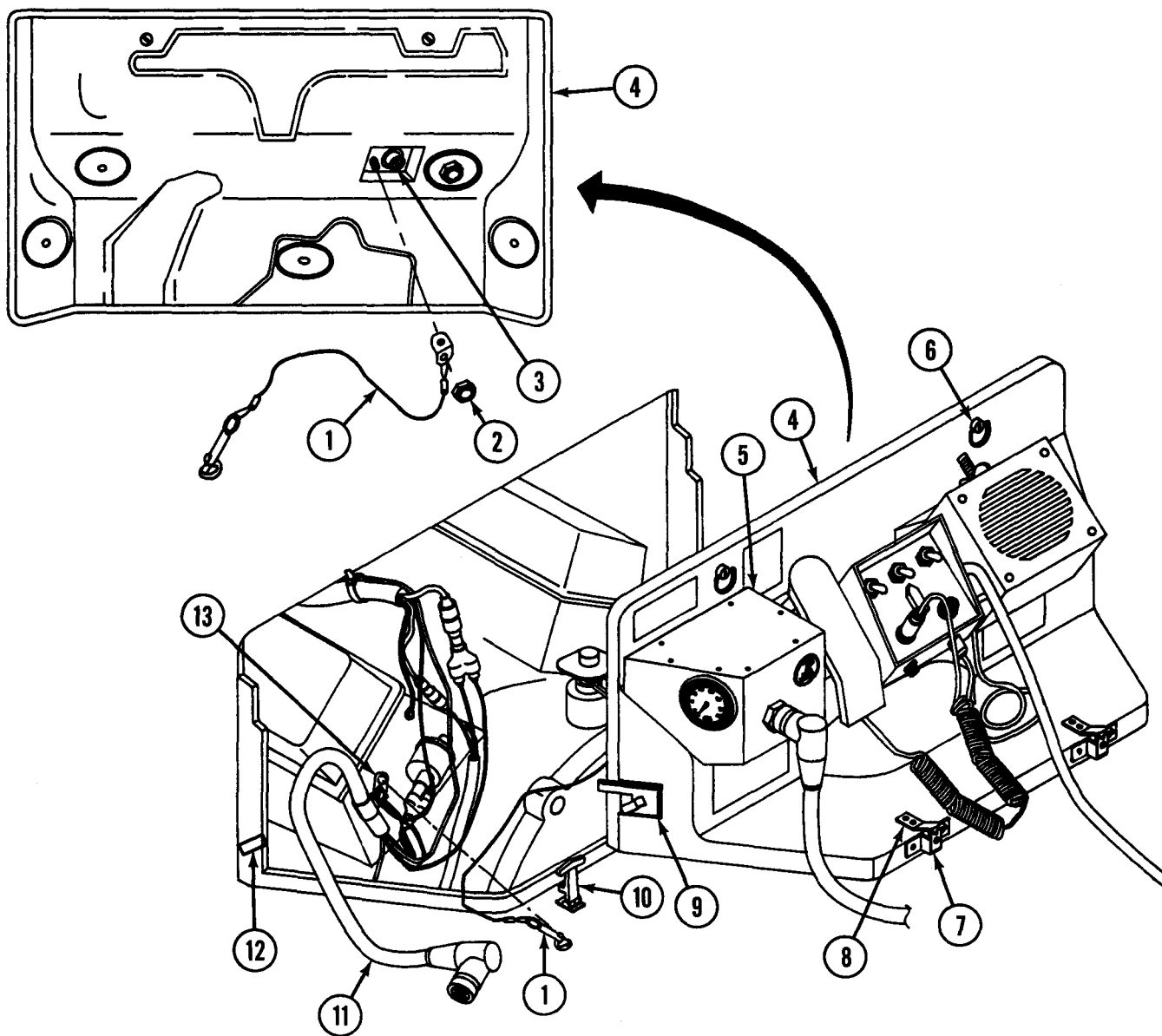
a. Removal

1. Unlatch two flexible latches (10) from keepers (8) on engine access cover holddown brackets (7).
2. Unlatch two engine access cover holddown latches (9) from engine access cover holddown strikes (12).
3. Turn two ring studs (6) and pull engine access cover (4) out until end of safety lanyard (1) is reached.
4. Disconnect cable assembly W66 (11) from connector (3) on tach/hourmeter box (5).
5. Unhook safety lanyard (1) from safety tab (13).
6. Remove locknut (2) and safety lanyard (1) from engine access cover (4). Discard locknut (2).

b. Installation

1. Install safety lanyard (1) to engine access cover (4) and secure with locknut (2).
2. Hook safety lanyard (1) onto safety tab (13).
3. Connect cable assembly W66 (11) to connector (3) on tach/hourmeter box (5).
4. Install engine access cover (4) and secure with two ring studs (6).
5. Secure two engine access cover holddown latches (9) to engine access cover holddown strikes (12).
6. Secure two flexible latches (10) to keepers (8) on engine access cover holddown brackets (7).

3-21. SAFETY LANYARD REPLACEMENT (Cont'd)



3-22. STORAGE BOX REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Equipment Condition

Cab rear panel is rolled upward
(TM 9-2320-280-10)

Manual Reference

TM 9-2320-280-10

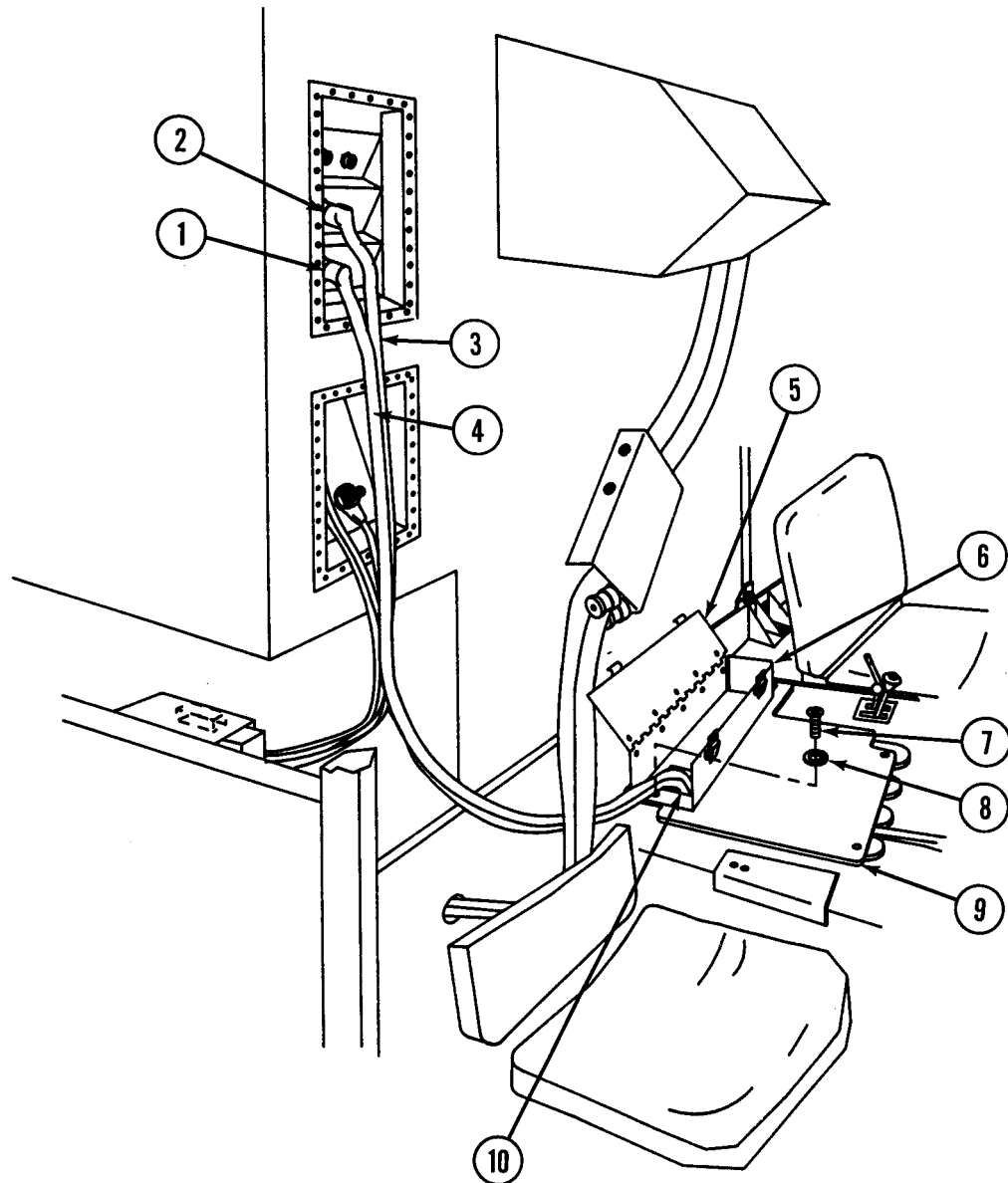
a. Removal

1. Unlatch and open storage box cover (5).
2. Disconnect cable assembly W64 (4) from connector 10J2 (1) and cable assembly CX-4723/VRC (3) from connector 10J1 (2).
3. Remove two screws (7) and washers (8) that attach storage box (6) to front floorboard (9).
4. Lift storage box (6) and pull cable assembly W64 (4) and cable assembly CX-4723/VRC (3) through cutout (10). Remove storage box (6).

b. Installation

1. Feed cable assembly W64 (4) and cable assembly CX-4723/VRC (3) through cutout (10) in storage box (6).
2. Install storage box (6) to front floorboard (9) and secure with two washers (8) and screws (7).
3. Connect cable assembly W64 (4) to connector 10J2 (1) and cable assembly CX-4723/VRC (3) to connector 10J1 (2).
4. Close and latch storage box cover (5).

3-22. STORAGE BOX REPLACEMENT (Cont'd)



FOLLOW-ON TASK: Lower and secure cab rear panel (TM 9-2320-280-10).

3-23. STORAGE BOX REPAIR

This task covers:

- | | |
|-----------------------|---|
| a. Hinge Removal | c. Strike and Clamping Catch Removal |
| b. Hinge Installation | d. Strike and Clamping Catch Installation |

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)
Electric drill, (Item 2,
Section III, Appendix B)
Drill bit, 3/16-inch, (Item 2,
Section III, Appendix B)
Riveter, blind hand (Item 2,
Section III, Appendix B)

Materials/Parts

Ten dome head rivets
P/N 1601-0619

Materials/Parts (Cont'd)

Two lockwashers
P/N MS35338-136
Two self-locking nuts
P/N MS21044C06

Equipment Condition

Storage box removed (para 3-22a)

General Safety Instructions

When drilling, be sure to wear
goggles for eye protection.

a. Hinge Removal

1. File small flat on rivet heads (3).
2. Center punch flats while supporting rivet backsides.

WARNING

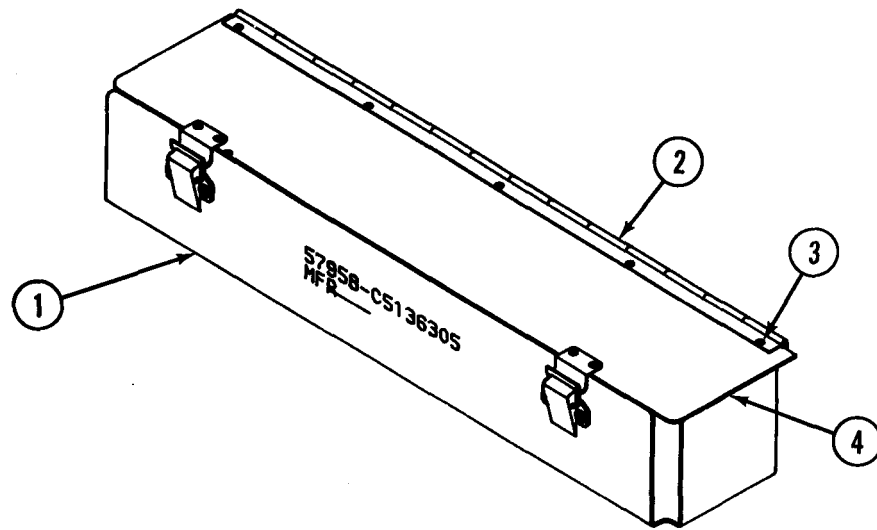
When drilling, be sure to wear goggles for eye
protection or injury to personnel may occur.

3. Using 3/16-inch drill bit, drill through all rivet heads (3).
4. Pry off rivet heads (3) and tap out rivet shanks. Remove
hinge (2).

b. Hinge Installation

1. Place hinge (2) in position.
2. Rivet hinge to storage box (1) and storage box cover (4).

3-23. STORAGE BOX REPAIR (Cont'd)



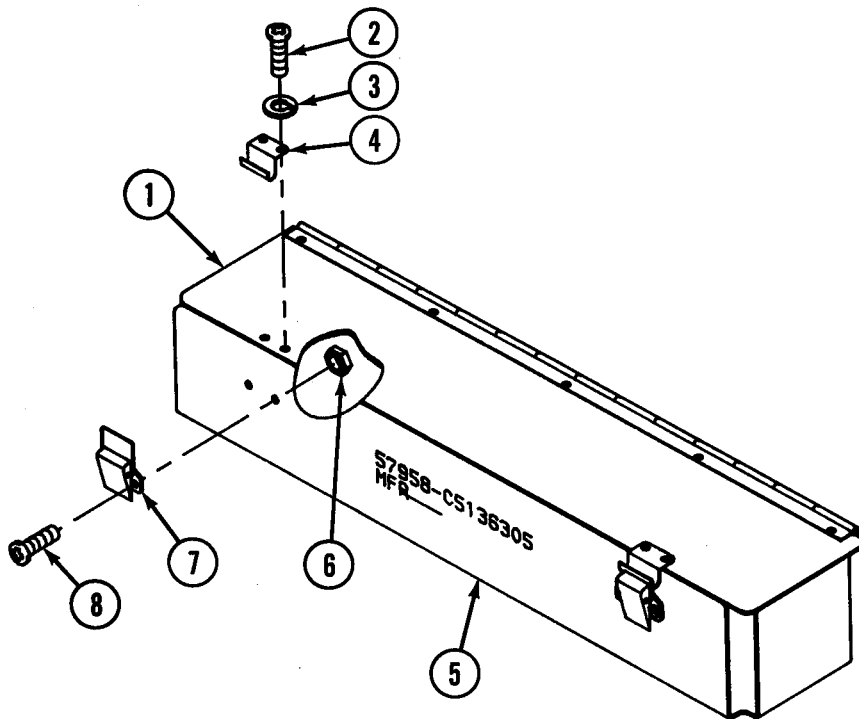
3-23. STORAGE BOX REPAIR (Cont'd)

c. Strike and Clamping Catch Removal

1. Unlatch and open storage box cover (1).
2. Remove two screws (2) and lockwashers (3) from strike (4). Remove strike (4). Discard lockwashers (3).
3. Remove two screws (8) and self-locking nuts (6) from clamping catch (7). Remove clamping catch (7). Discard self-locking nuts (6).

d. Strike and Clamping Catch Installation

1. Place clamping catch (7) on storage box (5) and secure with two screws (8) and self-locking nuts (6).
2. Place strike (4) on storage box cover (1) and secure with two screws (2) and lockwashers (3).
3. Close and latch storage box cover (1).



FOLLOW-ON TASK: Install storage box (para 3-22b).

Section VII. ELECTRICAL COMPONENTS MAINTENANCE

3-24. ELECTRICAL COMPONENT MAINTENANCE TASK SUMMARY

| PARA | PROCEDURES | PAGE NO. |
|-------|---|-------------|
| 3-25. | Cable Assembly W64 Replacement | 3-48 |
| 3-26. | Cable Assembly W66 Replacement | 3-50 |
| 3-27. | Cable Assembly Repair | 3-60 |
| 3-28. | Wire No. 798 Replacement | 3-60 |
| 3-29. | Wire No. 798 Repair | 3-64 |
| 3-30. | Power Interface Box Replacement | 3-66 |
| 3-31. | Power Interface Box Repair | 3-70 |
| 3-32. | Incandescent Lamp and Lens Replacement | 3-80 |
| 3-33. | 200 Amp Alternator Replacement | 3-80 |
| 3-34. | 200 Amp Alternator Ground Strap Replacement | 3-81 |
| 3-35. | 200 Amp Alternator Pulley Replacement | 3-82 |
| 3-36. | Engine Oil Pressure Gage Replacement | 3-82 |
| 3-37. | Coolant Temperature Gage Replacement | 3-82 |
| 3-38. | Fuel Gage Replacement | 3-82 |

| |
|---|
| 3-25. CABLE ASSEMBLY W64 REPLACEMENT |
|---|

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Manual Reference

TM 9-2320-280-20

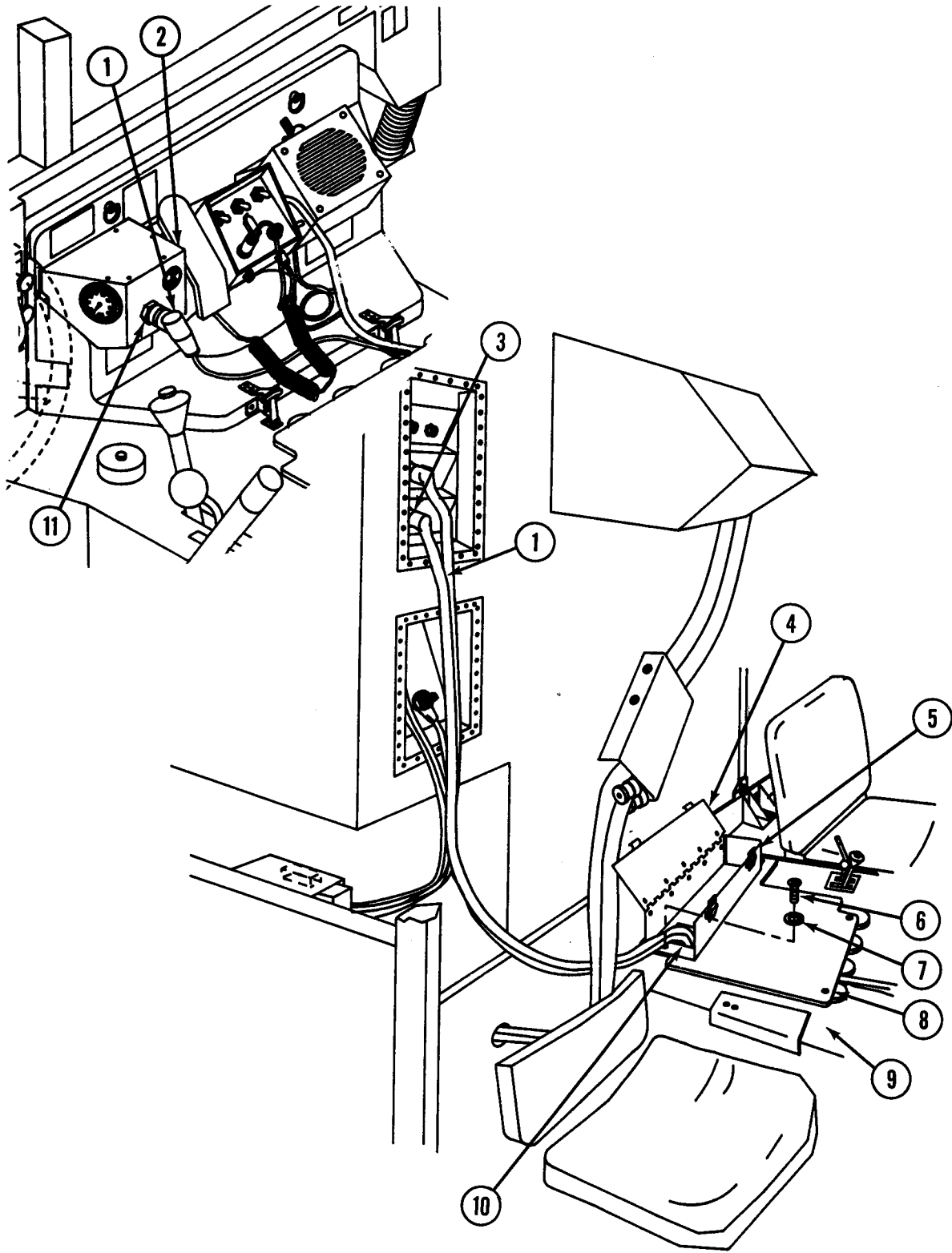
| |
|-------------------|
| a. Removal |
|-------------------|

1. Disconnect cable assembly W64 (1) from connector 12J1 (11) on tach/hourmeter box (2).
2. Unlatch and open storage box cover (4).
3. Remove four screws (6) and two washers (7) that secures front floorboard (8) to transmission tunnel (9).
4. Lift front floorboard (8) and pull cable assembly W64 (1) through storage box (5) and front floorboard (8).
5. Disconnect cable assembly W64 (1) from connector 10J2 (3) on shelter and remove from truck.

| |
|------------------------|
| b. Installation |
|------------------------|

1. Connect cable assembly W64 (1) to connector 10J2 (3) on shelter.
2. Feed cable assembly W64 (1) through holes (10) in front floorboard (8) and storage box (5).
3. Connect cable assembly W64 (1) to connector 12J1 (11) on tach/hourmeter box (2).
4. Secure front floorboard (8) to transmission tunnel (9) with two washers (7) and four screws (6).
5. Close and latch storage box cover (4).

3-25. CABLE ASSEMBLY W64 REPLACEMENT (Cont'd)



3-26. CABLE ASSEMBLY W66 REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)
Soldering gun (Item 2,
Section III, Appendix B)

Manual References

TM 9-2320-280-10
TM 9-2320-280-20

Materials/Parts

Antiseize compound, conductive
(Appendix C, Item 1)
One connector
P/N MS27144-2

Materials/Parts (Cont'd)

Solder, tin alloy (Appendix C,
Item 8)
Tie-traps (as required)
P/N MS3367-2-0

Equipment Condition

- Hood raised and secured
(TM 9-2320-280-10)
- Battery ground cable disconnected
(TM 9-2320-280-20)

General Safety Instructions

Wear protective eye wear while
performing any soldering.

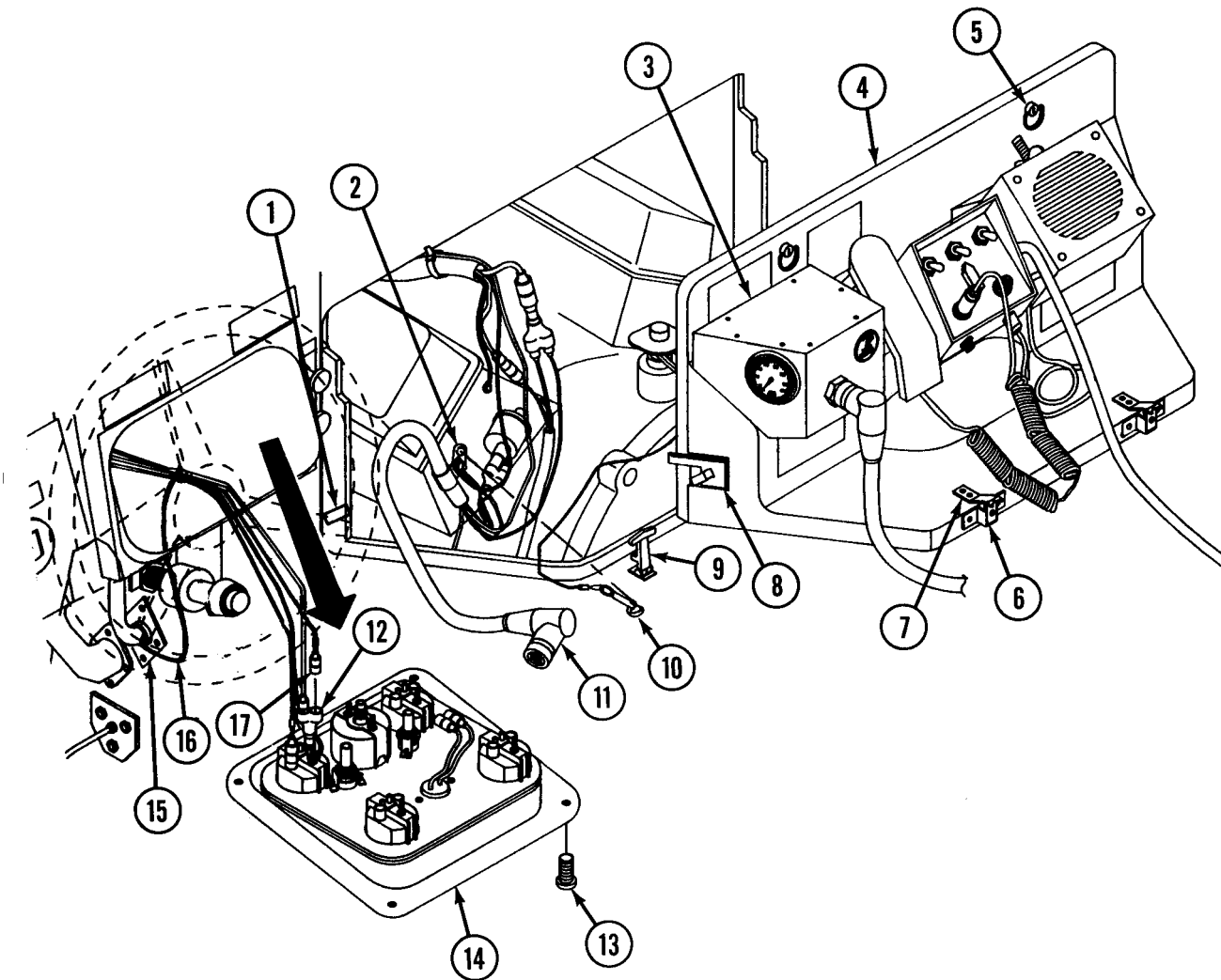
NOTE

Use figure 3-2, Engine Electrical Interface, when
removing or installing cable assembly W66.

a. Removal

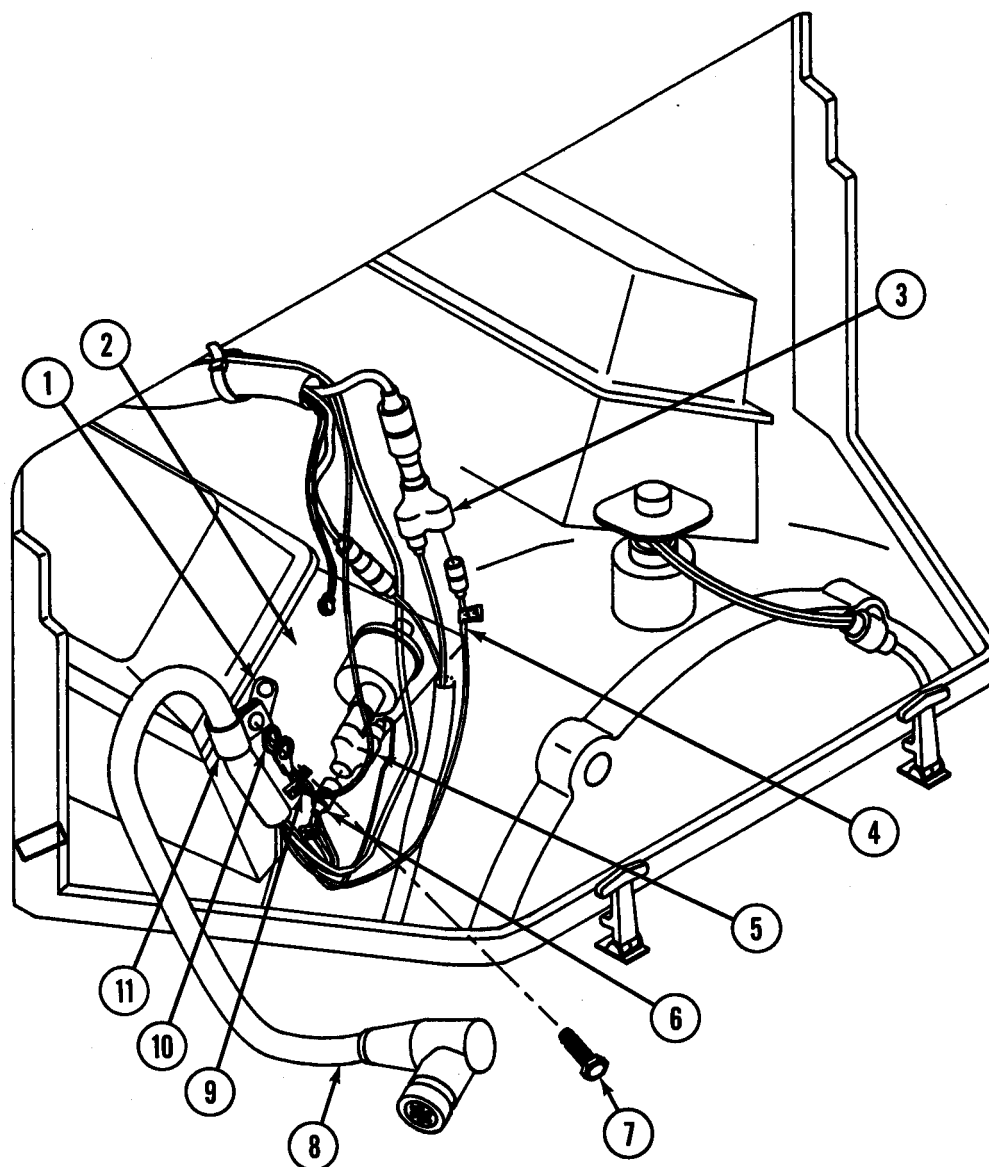
1. Remove four screws (13) and pull out instrument cluster (14).
2. Unlatch two flexible latches (9) from keepers (7) on engine
access cover holddown brackets (6).
3. Unlatch two engine access cover holddown latches (8) from engine
access cover holddown strikes (1).
4. Turn two ring studs (5) and pull engine access cover (4) out
until end of safety lanyard (10) is reached.
5. Disconnect cable assembly W66 (11) from connector on tach/hourmeter
box (3).
6. Unhook safety lanyard (10) from safety tab (2). Remove engine access
cover (4).
7. Remove wire no. 28 (16) from 3-way connector (12).
8. Cut connector (17) from wire no. 28 (16).
9. From engine side, pull out wire no. 28 (16) from cowl grommet (15).

3-26. CABLE ASSEMBLY W66 REPLACEMENT Cont'd)



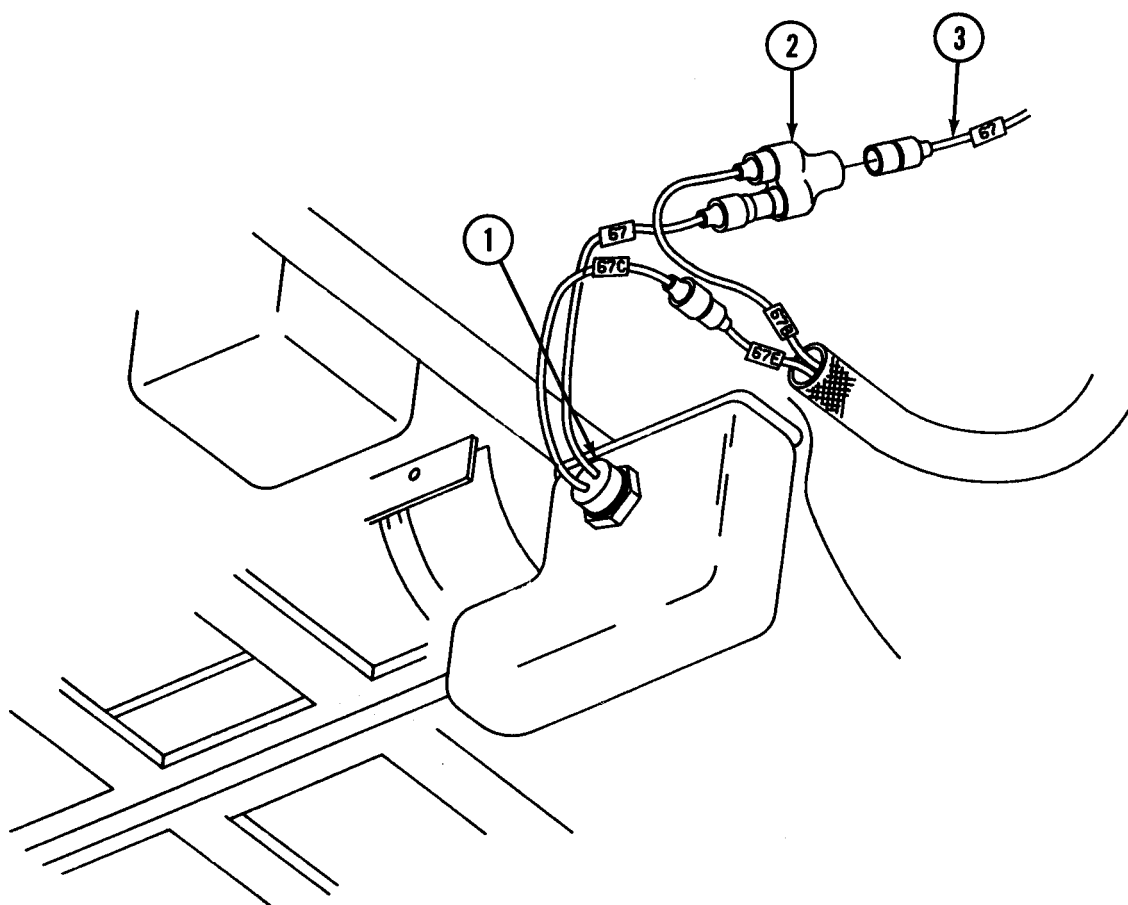
3-26. CABLE ASSEMBLY W66 REPLACEMENT (Cont'd)

10. Remove wire no. 33 (4) from 3-way connector (3).
11. Remove wire no. 36 (6) from 3-way connector (5).
12. Remove screw (7) that secures loop clamp (11), cable assembly W66 (8), wire no. 798 (9), wire no. 58 (10), and safety tab (1) to engine block (2).



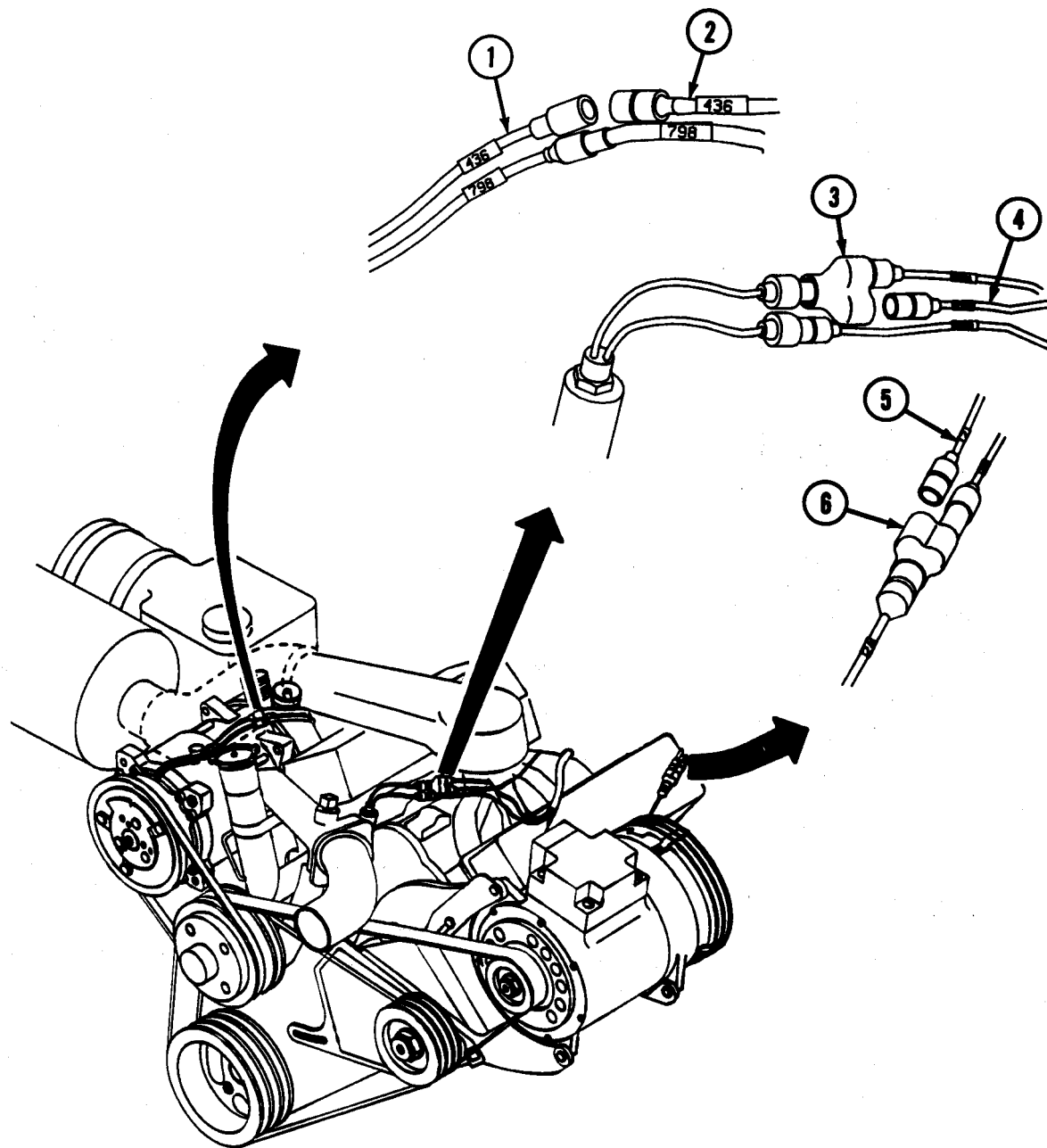
3-26. CABLE ASSEMBLY W66 REPLACEMENT (Cont'd)

13. From under truck at parking brake switch (1), remove wire no. 67 (3) from 3-way connector (2).



3-26. CABLE ASSEMBLY W66 REPLACEMENT (Cont'd)

14. Remove wire no. 436 (2) from wire no. 436 (1) (on compressor).
15. Remove wire no. 458 (4) from 3-way connector (3).
16. Remove wire no. 2 (5) from the 3-way connector (6).
17. Remove cable assembly W66 from truck.

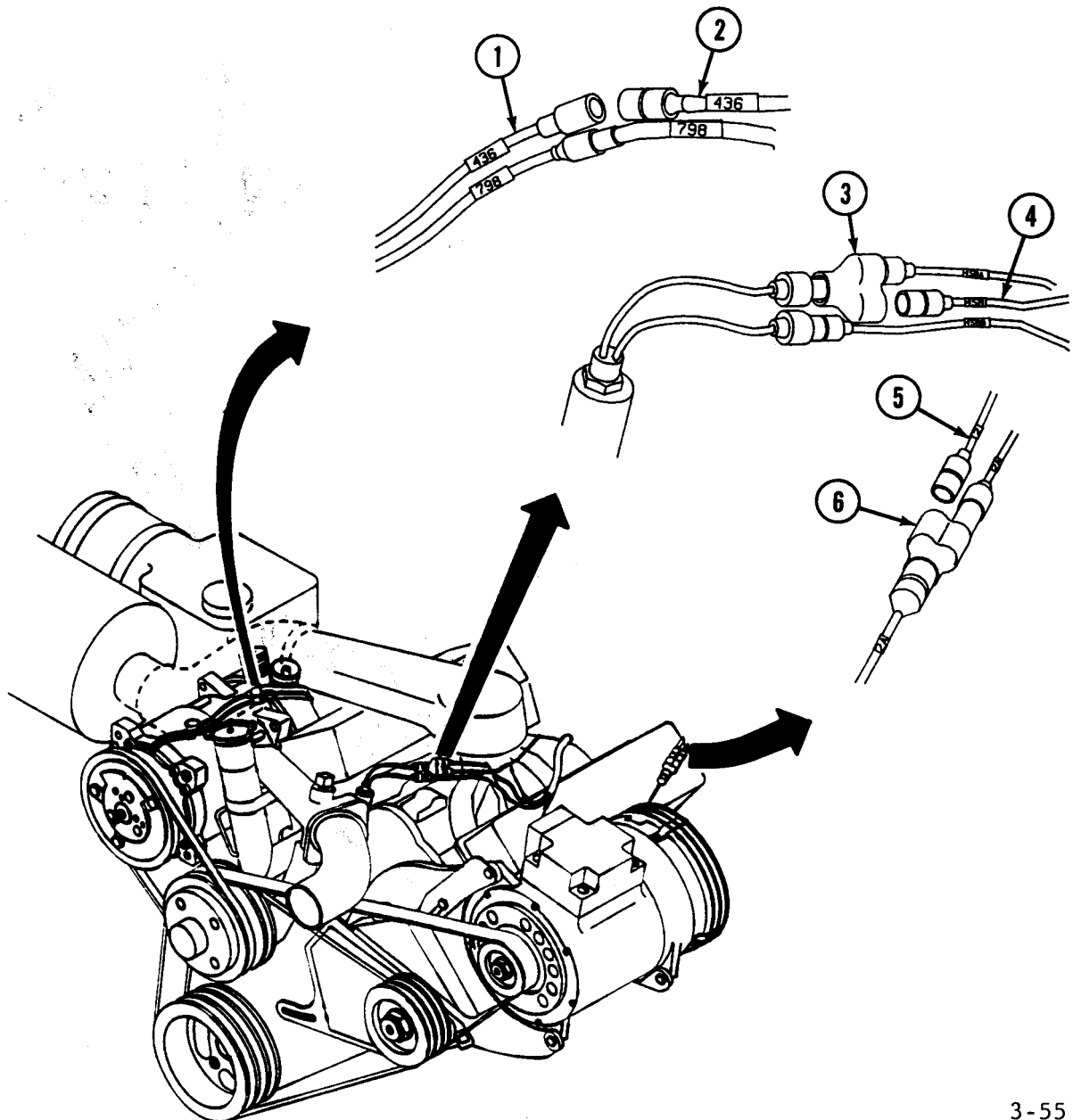


3-26. CABLE ASSEMBLY W66 REPLACEMENT (Cont'd)**NOTE**

Use figure 3-2, Engine Electrical Interface, when removing or installing cable assembly W66.

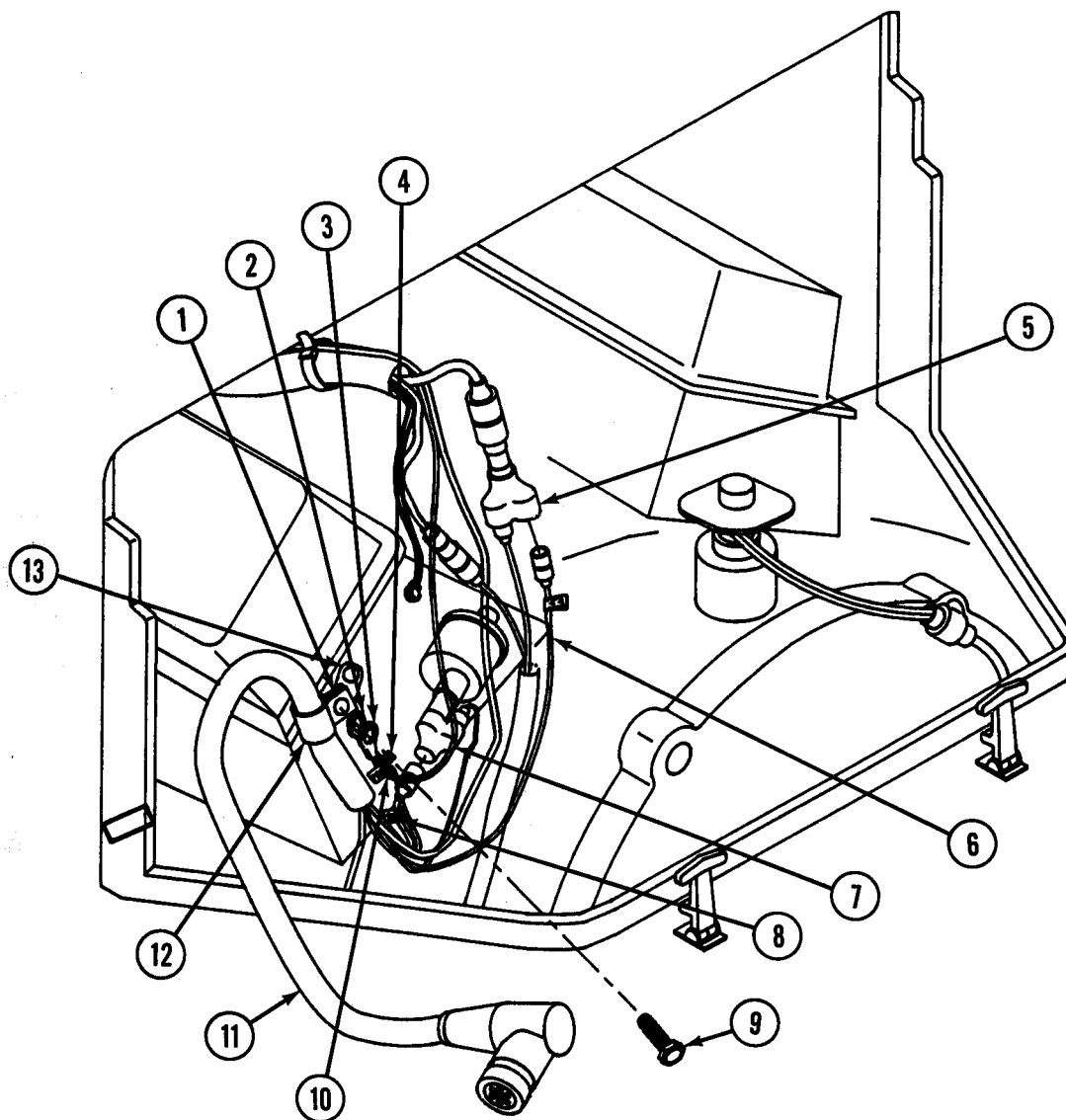
b. Installation

1. Install cable assembly W66 in truck and install wire no. 2 (5) to 3-way connector (6).
2. Install wire no. 458 (4) to 3-way connector (3).
3. Install wire no. 436 (2) to wire no. 436 (1) (on compressor).



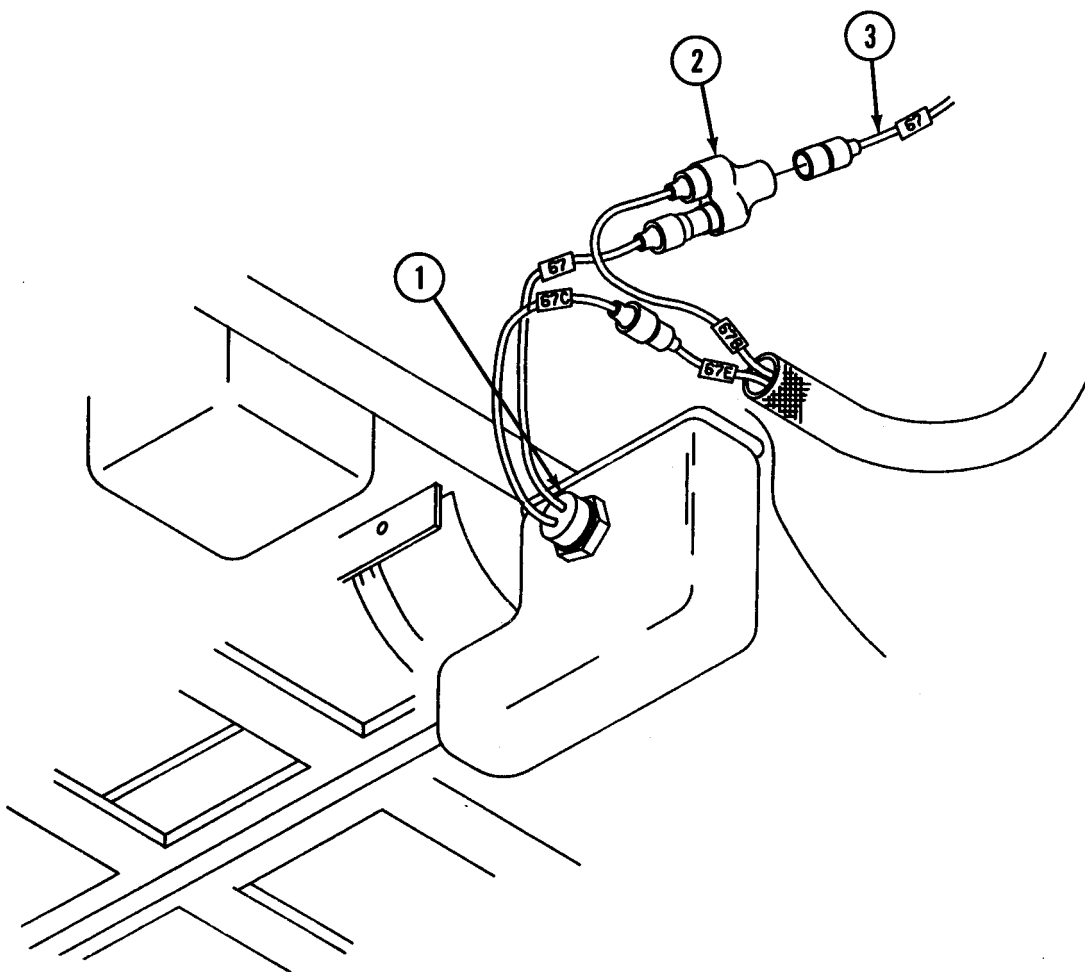
3-26. CABLE ASSEMBLY W66 REPLACEMENT (Cont'd)

4. Install loop clamp (12) on cable assembly W66 (11).
5. Apply conductive antiseize compound to terminal lug (3) on wire no. 798 (10) and terminal lug (2) on wire no. 58 (4).
6. Install safety tab (13), loop clamp (12), wire no. 798 (10), and wire no. 58 (4) to engine block (1) and secure with screw (9),
7. Install wire no. 36 (8) to 3-way connector (7).
8. Install wire no. 33 (6) to 3-way connector (5).



3-26. CABLE ASSEMBLY W66 REPLACEMENT (Cont'd)

9. From under truck at parking brake switch (1), install wire no. 67 (3) to 3-way connector (2).



3-26. CABLE ASSEMBLY W66 REPLACEMENT (Cont'd)

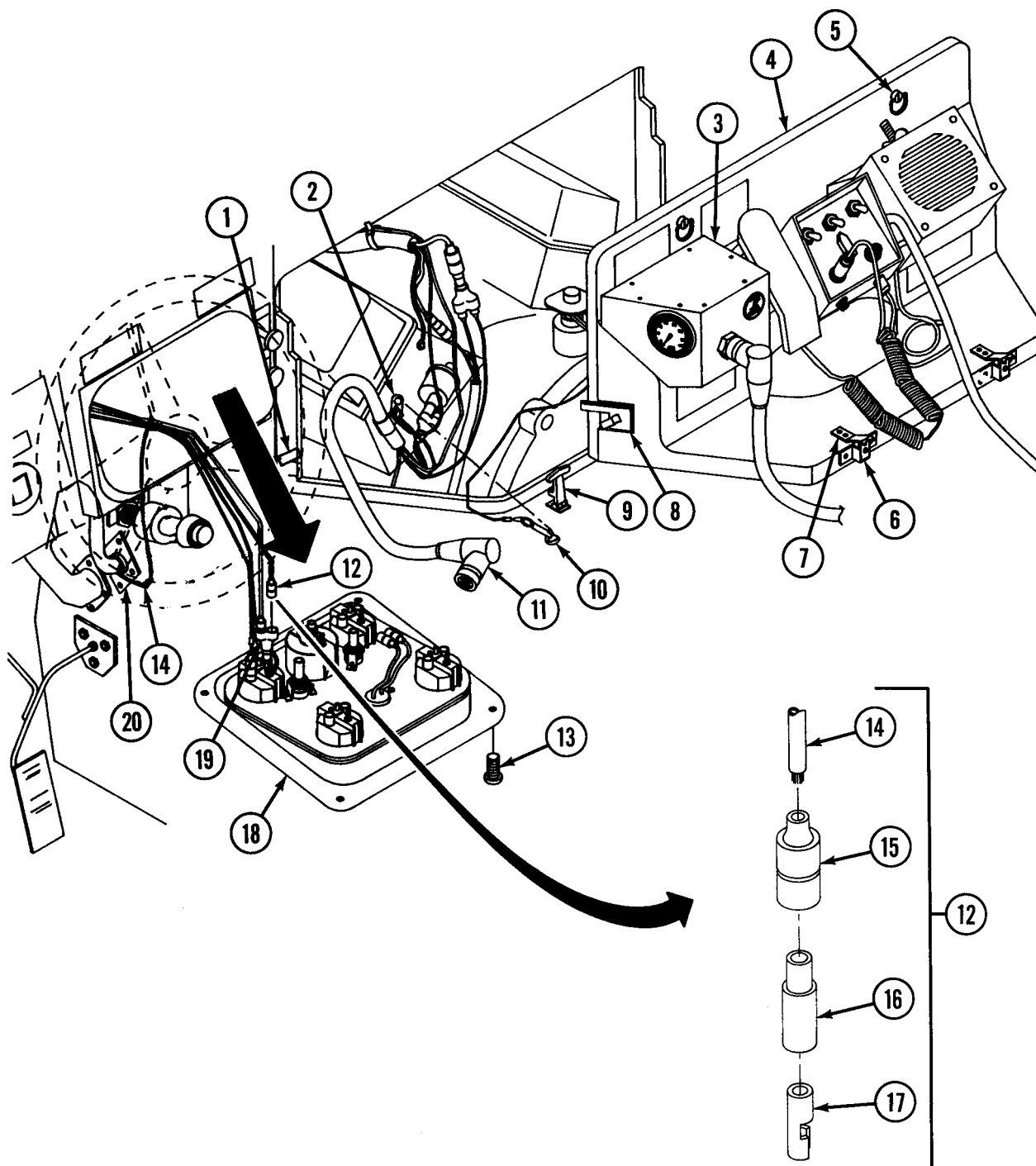
10. From engine side, route wire no. 28 (14) through cowl grommet (20).
11. Slide rubber shell (15) and plastic sleeve (16) from connector (12) onto wire no. 28 (14).
12. Strip insulation 1/4-inch (0.64 cm) from end of wire no. 28 (14).
13. Install connector terminal (17) onto wire no. 28 (14) and crimp.

WARNING

To prevent eye injury, wear protective eye wear while performing any soldering.

14. Solder crimped joint between connector terminal (17) and wire no. 28 (14).
15. Slide plastic sleeve (16) and rubber shell (15) onto connector terminal (17).
16. Install wire no. 28 (14) to 3-way connector (19).
17. Connect safety lanyard (10) to safety tab (2).
18. Connect cable assembly W66 (11) to connector on back of tach/hourmeter box (3).
19. Install engine access cover (4) and secure with two ring studs (5).
20. Secure two engine access cover holddown latches (8) to engine access cover holddown strikes (1).
21. Secure two flexible latches (9) to keepers (7) on engine access cover holddown brackets (6).
22. Place instrument cluster (18) in position and secure with four screws (13).

3-26. CABLE ASSEMBLY W66 REPLACEMENT (Cont'd)



FOLLOW-ON TASKS: ●Connect battery ground cable (TM 9-2320-280-20).
●Lower and secure hood (TM 9-2320-280-10).

3-27. CABLE ASSEMBLY REPAIR

NOTE

For basic cable assembly repairs, see TM 9-2320-280-20.

3-28. WIRE NO. 798 REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Material/Parts

Tie-straps P/N MS3367-2-0

Manual References

TM 9-2320-280-10
TM 9-2320-280-20

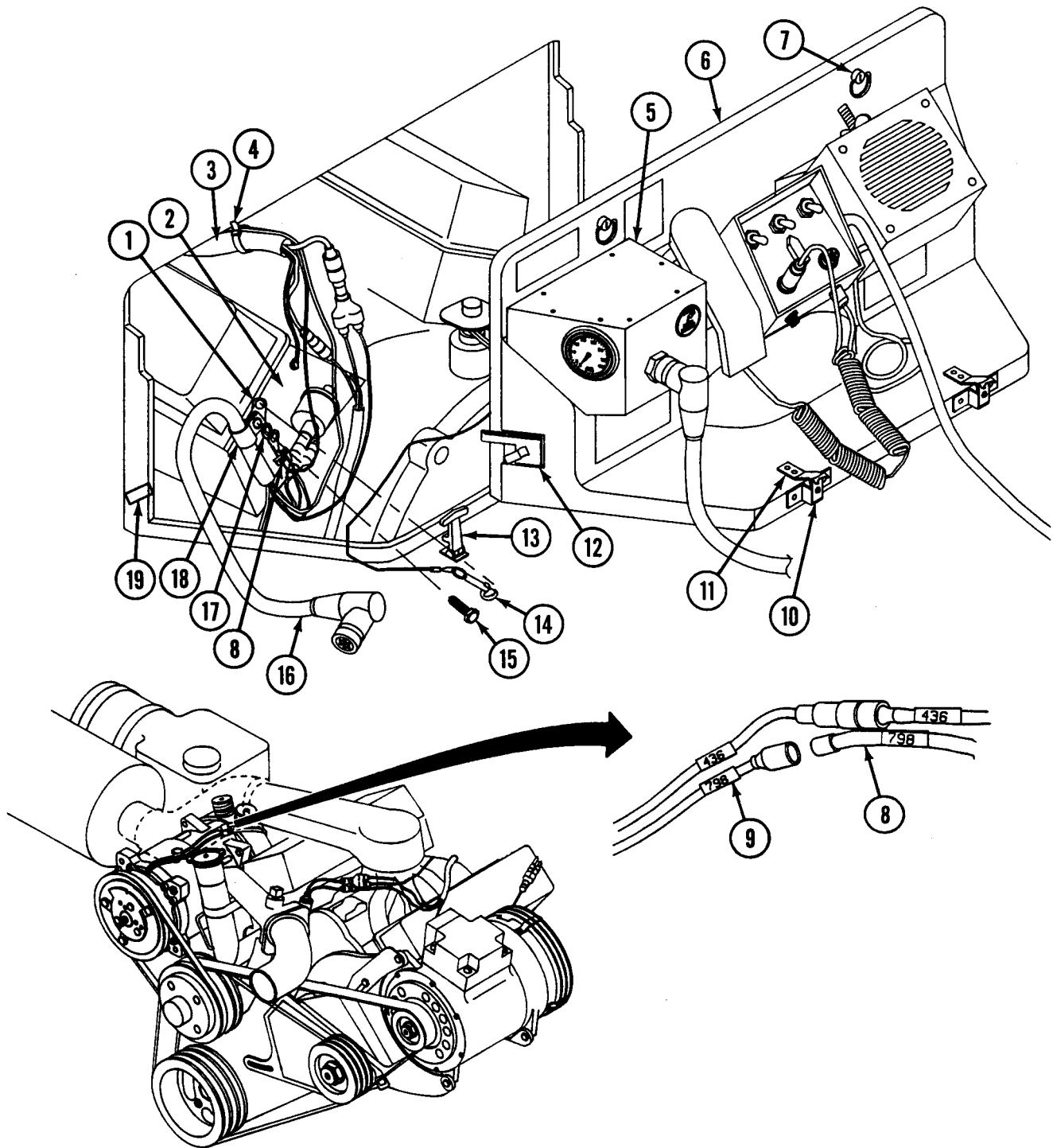
Equipment Condition

- Hood raised and secured
(TM 9-2320-280-10)
- Battery ground cable disconnected
(TM 9-2320-280-20)

a. Removal

1. Unlatch two flexible latches (13) from keepers (11) on engine access cover holddown brackets (10).
2. Unlatch two engine access cover holddown latches (12) from engine access cover holddown strikes (19).
3. Turn two ring studs (7) and pull engine access cover (6) out until end of safety lanyard (14) is reached.
4. Disconnect cable assembly W66 (16) from connector on tach/hourmeter box (5).
5. Unhook safety lanyard (14) from safety tab (1). Remove engine access cover (6).
6. Remove tie-straps (4) that attach wire no. 798 (8) to wiring harness (3).
7. Remove wire no. 798 (8) from wire no. 798 (9) (on compressor).
8. Remove screw (15) that attaches loop clamp (18), wire no. 798 (8), wire no. 58 (17), and safety tab (1) from engine block (2).
9. Remove wire no. 798 (8).

3-28. WIRE NO. 798 REPLACEMENT (Cont'd)

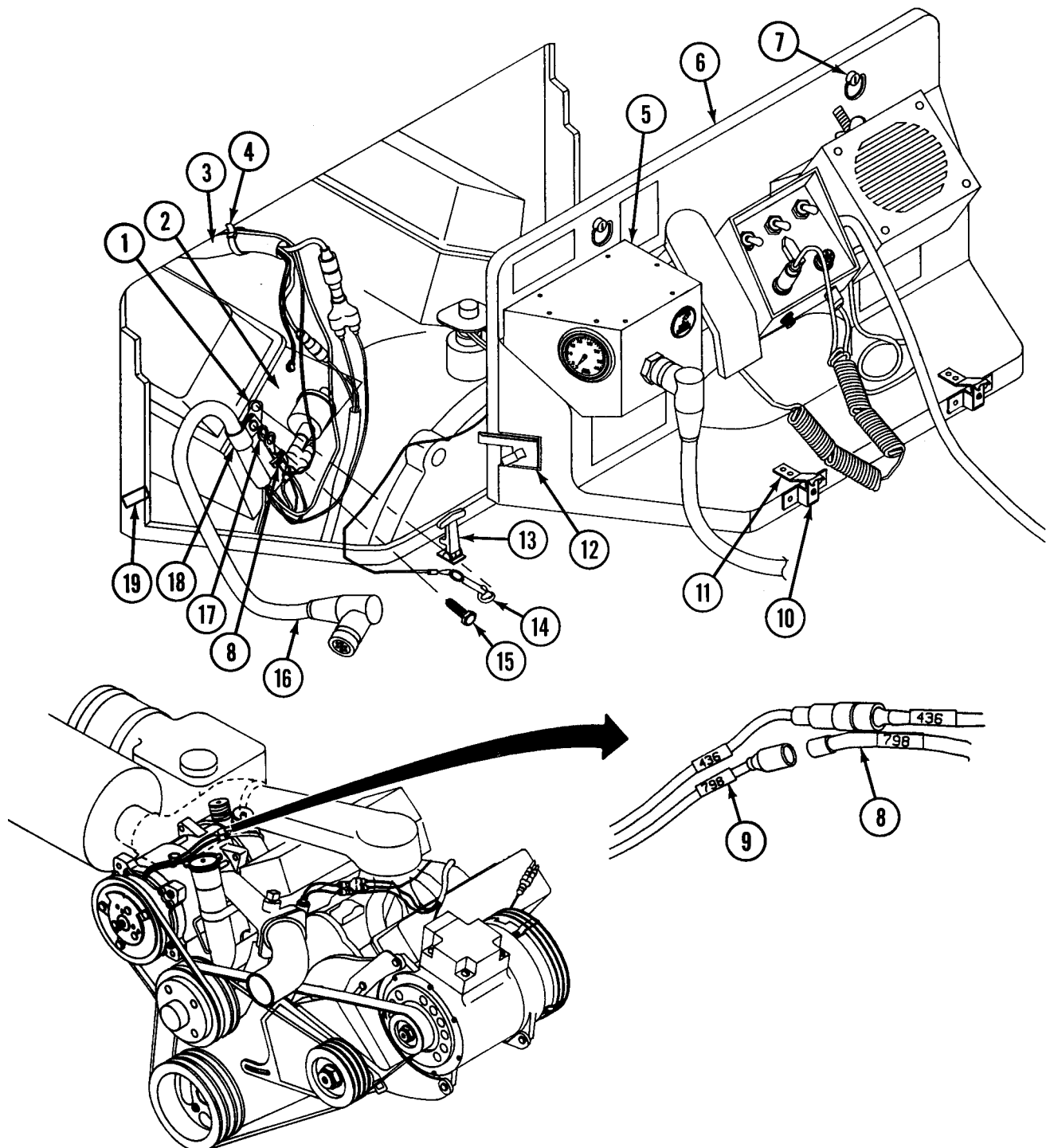


3-28. WIRE NO. 798 REPLACEMENT (Cont'd)

b. Installation

1. Install safety tab (1), loop clamp (18), wire no. 798 (8), and wire no. 58 (17) to engine block (2) and secure with screw (15).
2. Install wire no. 798 (8) to wire no. 798 (9) (on compressor).
3. Attach wire no. 798 (8) to wiring harness (3) using tie-straps (4).
4. Connect safety lanyard (14) to safety tab (1).
5. Connect cable assembly W66 (16) to connector on back of tach/hourmeter box (5).
6. Install engine access cover (6) and secure with two ring studs (7).
7. Secure two engine access cover holddown latches (12) to engine access cover holddown strikes (19).
8. Secure two flexible latches (13) to keepers (11) on engine access cover holddown brackets (10).

3-28. WIRE NO. 798 REPLACEMENT (Cont'd)



FOLLOW-ON TASKS: ●Connect battery ground cable (TM 9-2320-280-20).
●Lower and secure hood (TM 9-2320-280-10).

3-29. WIRE NO. 798 REPAIR

This task covers:

- | | |
|------------------------------|--------------------------|
| a. Terminal lug Removal | c. Connector Replacement |
| b. Terminal lug Installation | |

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Equipment Condition

- Hood raised and secured
(TM 9-2320-280-10)
- Battery ground cable disconnected
(TM 9-2320-280-20)

Manual References

TM 9-2320-280-10
TM 9-2320-280-20

a. Terminal Lug Removal

1. Remove terminal lug (2) from wire no. 798 (1).

b. Terminal Lug Installation

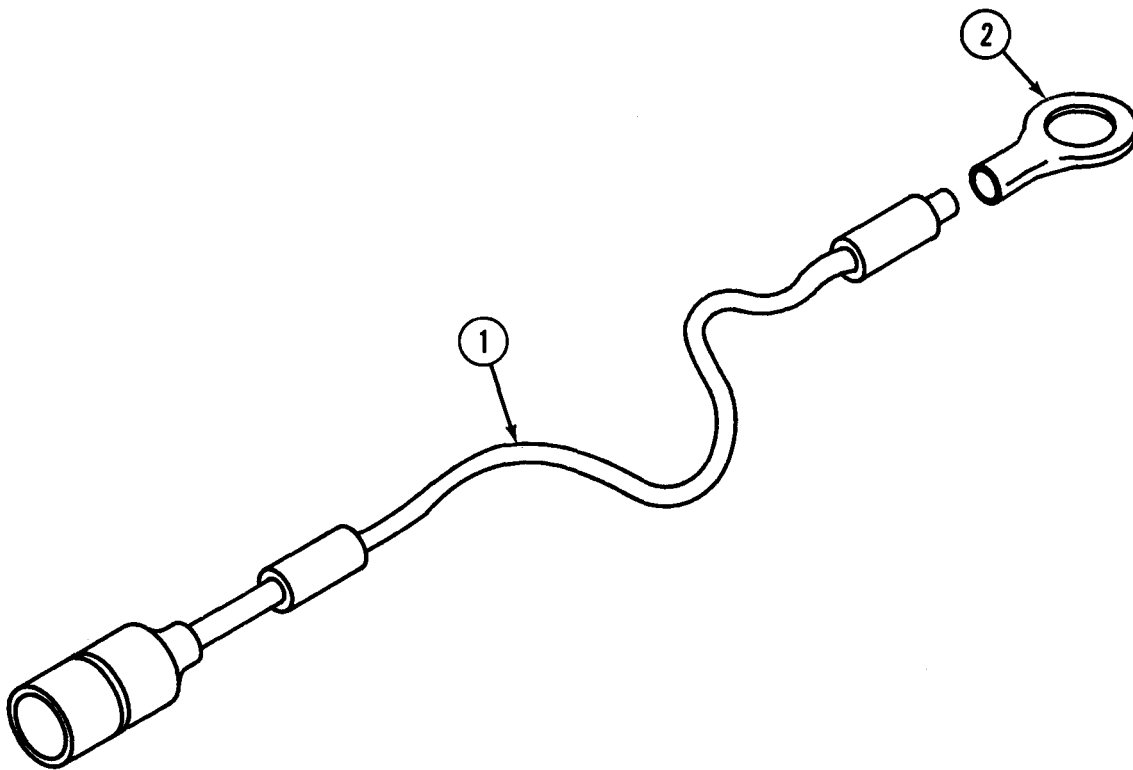
1. Strip insulation on wire no. 798 (1) to equal depth of terminal lug well (2).
2. Place terminal lug (2) on wire no. 798 (1) and crimp in place.

c. Connector Replacement

NOTE

Refer to TM 9-2320-280-20 for replacement of connector.

3-29. WIRE NO. 798 REPAIR (Cont'd)



- FOLLOW-ON TASKS:
- Connect battery ground cable (TM 9-2320-280-20).
 - Lower and secure hood (TM 9-2320-280-10).

3-30. POWER INTERFACE BOX REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Materials/Parts

Four self-locking nuts
P/N MS17830-4C
One lockwasher P/N 85031

Manual Reference

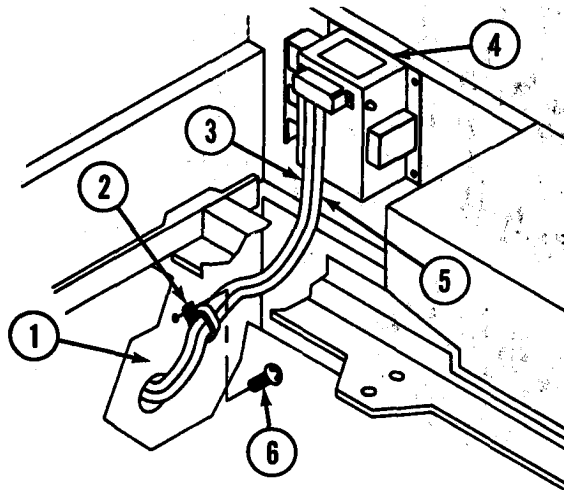
TM 9-2320-280-20

Equipment Condition

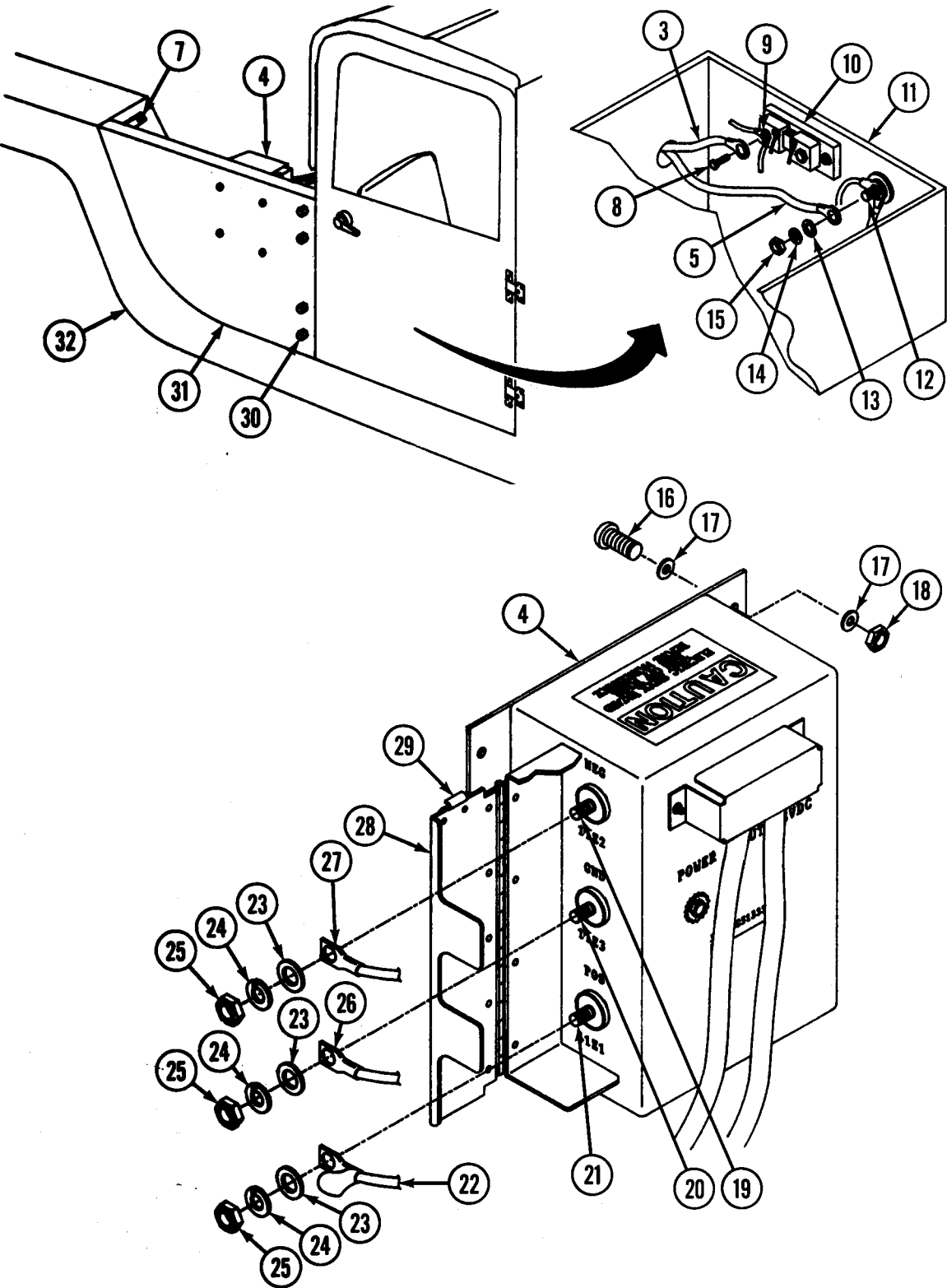
Battery ground cable disconnected
(TM 9-2320-280-20)

a. Removal

1. Remove nut (15), lockwasher (14), and washer (13) from terminal (12) on battery box (11). Remove cable W67 (5). Discard lockwasher (14).
2. Remove screw (8) from negative terminal (9) on shunt (10). Remove cable W69 (3).
3. Remove screw (6) and cable clamp (2) from enclosure panel (1). Remove cable clamp (2) from cables W67 (5) and W69 (3).
4. Remove cables W67 (5) and W69 (3) from truck.
5. Loosen four special bolts (30) from fixed rear door (31).
6. Loosen captive screw (7) and pull fixed rear door (31) away from truck (32) to access power interface box (4).
7. Unlatch fastening latch (29) and open cover (28).
8. Remove three nuts (25), lockwashers (24), and washers (23) from terminals 11E1 (21), 11E2 (19), and, 11E3 (20). Remove cables W68 (22), W70 (27), and W71 (26) from terminals 11E1 (21), 11E2 (19), and 11E3 (20).
9. Remove four screws (16), washers (17), and self-locking nuts (18) that secure power interface box (4) to fixed rear door (31). Remove power interface box (4) from truck. Discard self-locking nuts (18).



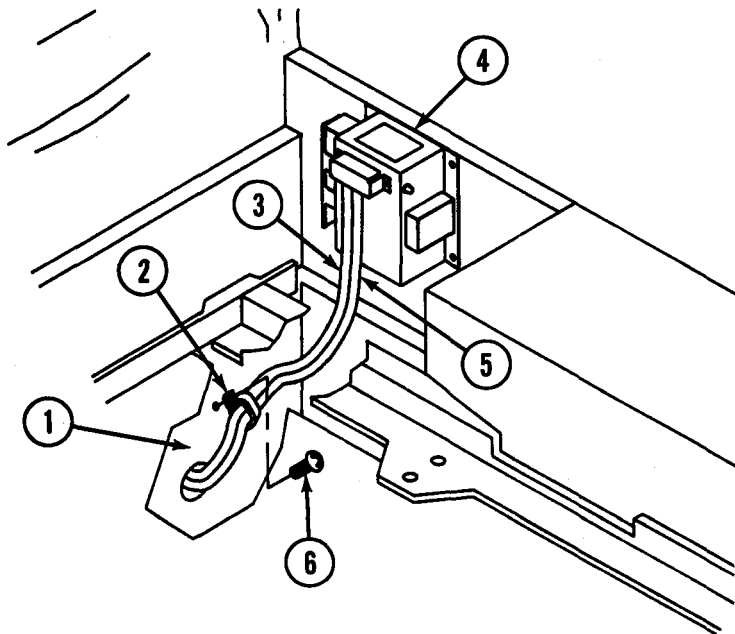
3-30. POWER INTERFACE BOX REPLACEMENT (Cont'd)



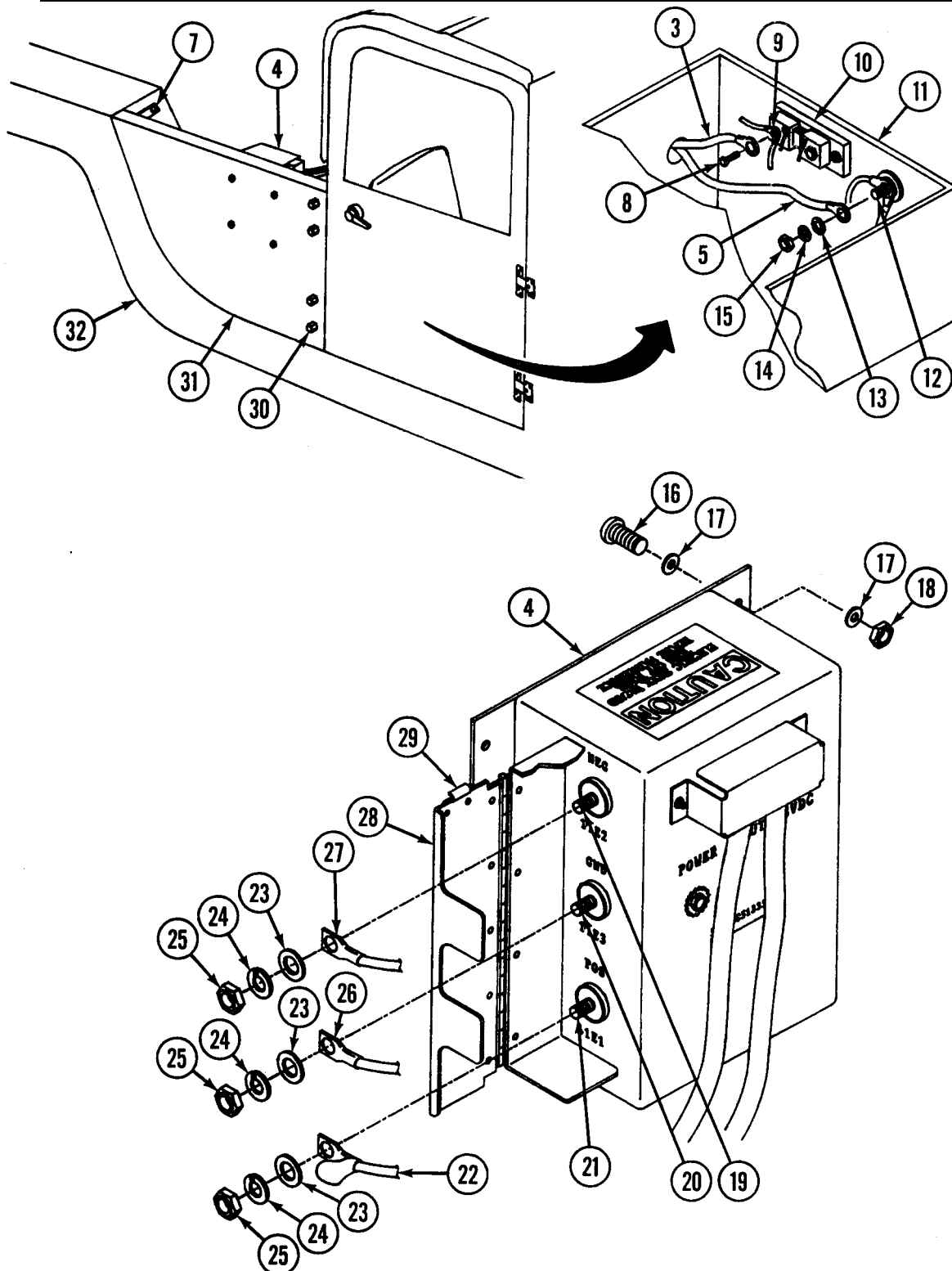
3-30. POWER INTERFACE BOX REPLACEMENT (Cont'd)

b. Installation

1. Install power interface box (4) onto fixed rear door (31) and secure with four screws (16), washers (17), and self-locking nuts (18).
2. Install cables as follows:
 - (a) cable W68 (22) to terminal 11E1 (21),
 - (b) cable W70 (27) to terminal 11E2 (19),
 - (c) cable W71 (26) to terminal 11E3 (20), and
 - (d) secure with three washers (23), lockwashers (24), and nuts (25).
3. Close cover (28) and secure with fastening latch (29).
4. Route cable W69 (3) and W67 (5) through hole in enclosure panel (1).
5. Install SHUNT end of cable W69 (3) to negative terminal (9) on shunt (10) and secure with screw (8).
6. Install POWER STUD end of cable W67 (5) to positive terminal (12), Secure with washer (13), lockwasher (14), and nut (15).
7. Place cable clamp (2) over cables W69 (3) and W67 (5) and secure to enclosure panel (1) with screw (6).
8. Place fixed rear door (31) against side of truck (32) and secure-with captive screw (7) and four special bolts (30),



3-30. POWER INTERFACE BOX REPLACEMENT (Cont'd)



FOLLOW-ON TASK: Connect battery ground cable (TM 9-2320-280-20).

3-31. POWER INTERFACE BOX REPAIR

- | | |
|---|--------------------------------|
| a. Hinge Removal | i. Guard and Boot Removal |
| b. Hinge Installation | j. Guard and Boot Installation |
| c. Strike and Clamping Catch Removal | k. Cable W67 Removal |
| d. Strike and Clamping Catch Installation | l. Cable W67 Installation |
| e. Power Terminals Cover Removal | m. Cable W69 Removal |
| f. Power Terminals Cover Installation | n. Cable W69 Installation |
| g. Terminal Cover Removal | |
| h. Terminal Cover Installation | |
-

INITIAL SETUP:

Tools

General mechanic's tool kit:
 automotive (Item 1, Section III, Appendix B)
 Drill bit, 3/16-inch (Item 2, Section III, Appendix B)
 Drill, electric (Item 2, Section III, Appendix B)
 Riveter, blind hand (Item 2, Section III, Appendix B)

Materials/Parts

Four lockwashers
 P/N MS35338-138
 Nine dome head rivets
 P/N 1601-0619
 One lockwasher P/N 85031

Materials/Parts (Cont'd)

Two lockwashers
 P/N MS35338-136
 Two self-locking nuts
 P/N MS21044C06
 Two self-locking nuts
 P/N MS21044C3

Equipment Condition

Power interface box removed
 (para 3-30a)

General Safety Instructions

When drilling, be sure to wear goggles for eye protection.

a. Hinge Removal

1. File small flat on rivet heads (1).
2. Center punch flats while supporting rivet backsides.

WARNING

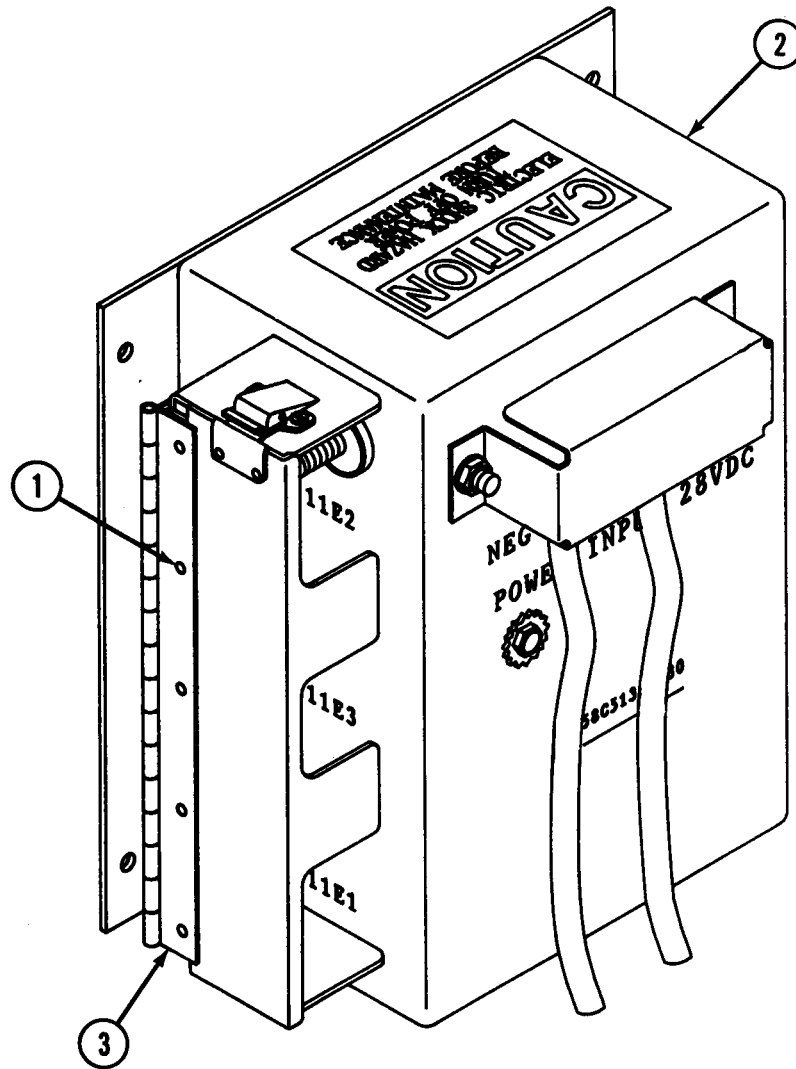
When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.

3. Using 3/16-inch drill bit, drill through all rivet heads (1).
4. Pry off rivet heads (1) and tap out rivet shanks. Remove hinge (3).

b. Hinge Installation

1. Place hinge (3) in position.
2. Rivet hinge to power interface box (2).

3-31. POWER INTERFACE BOX REPAIR (Cont'd)



3-31. POWER INTERFACE BOX REPAIR (Cont'd)

c. Strike and Clamping Catch Removal

1. Unlatch clamping catch (1) from strike (5) and open cover (4).
2. Remove two screws (2) and self-locking nuts (3) from clamping catch (1). Remove clamping catch (1). Discard self-locking nuts (3).
3. Remove two screws (7) and lockwashers (6) from strike (5). Remove strike (5). Discard lockwashers (6).

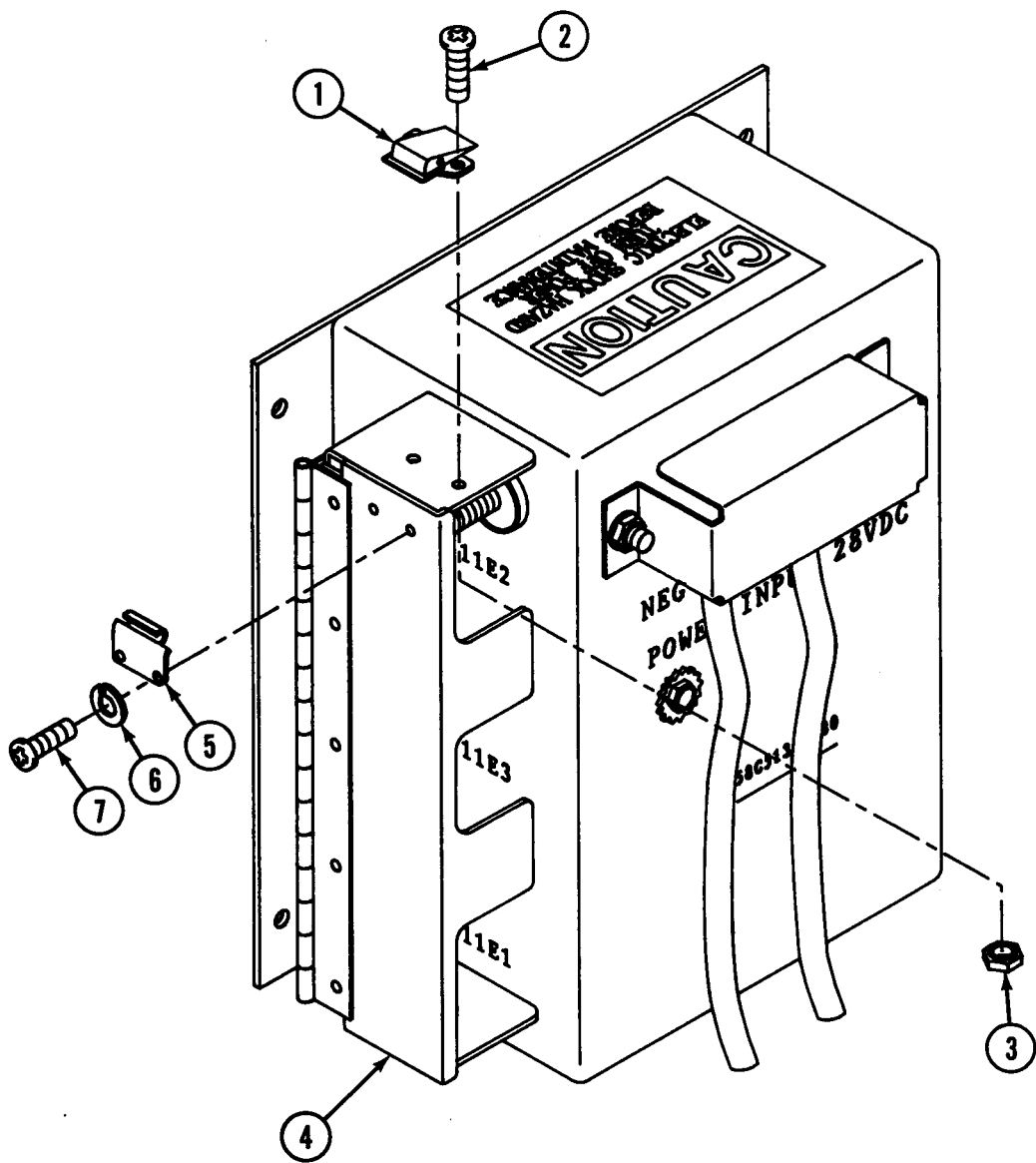
d. Strike and Clamping Catch Installation

Install strike (5) to cover (4) and secure with two screws (7) and lockwashers (6).

Install clamping catch (1) to cover (4) and secure with two screws (2) and self-locking nuts (3).

Close cover (4) and fasten clamping catch (1) to strike (5).

3-31. POWER INTERFACE BOX REPAIR (Cont'd)



3-31. POWER INTERFACE BOX REPAIR (Cont'd)

e. Power Terminals Cover Removal

1. File small flat on rivet heads (4) on power terminals cover side of hinge (3).
2. Center punch flats while supporting rivet backsides (4).

WARNING

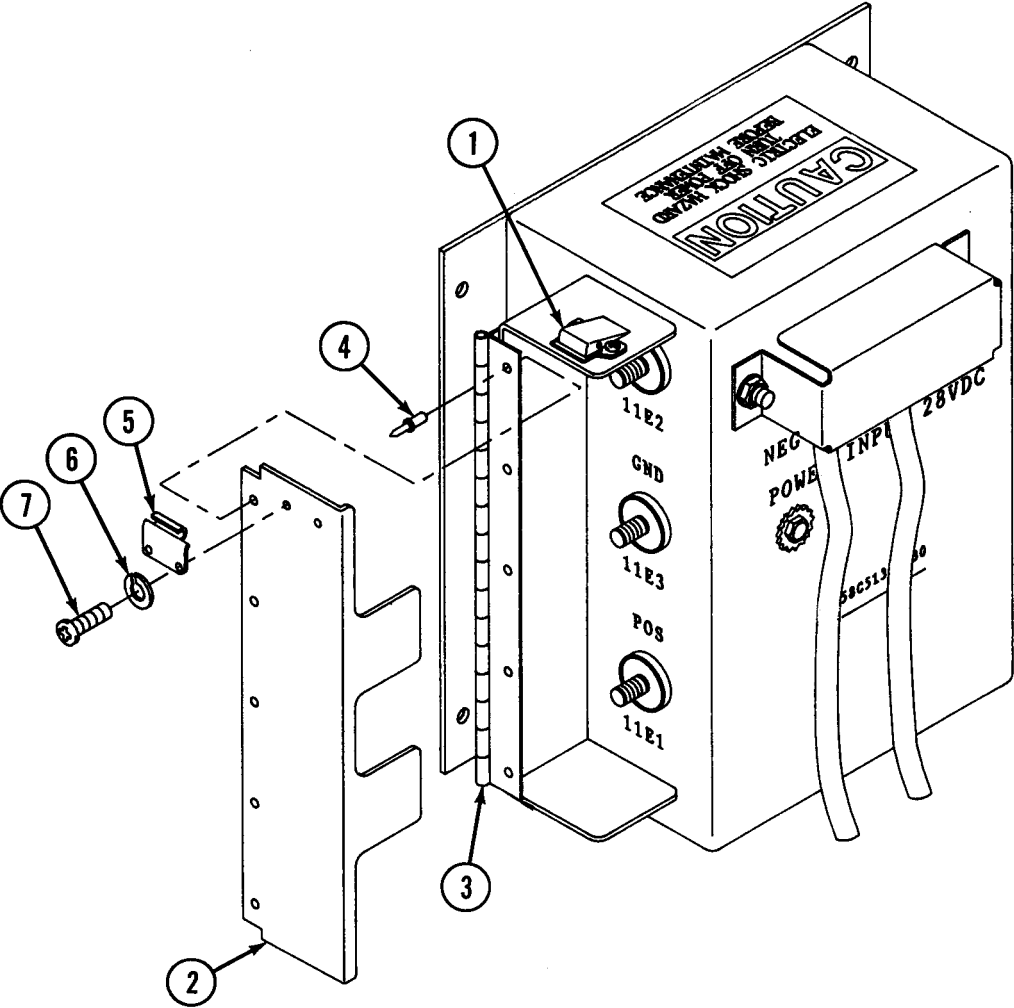
When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.

3. Using 3/16-inch drill bit, drill through rivet heads (4) on power terminals cover side of hinge (3),
4. Unlatch clamping catch (1) from strike (5).
5. Remove two screws (7) and lockwashers (6) from strike (5). Remove strike (5) and cover (2). Discard lockwashers (6).

f. Power Terminals Cover Installation

1. Place cover (2) in position.
2. Place hinge (3) in position.
3. Rivet hinge (3) to cover (2).
4. Install strike (5) to cover (2) and secure with two screws (7) and lockwashers (6).
5. Close cover (2) and fasten clamping catch (1) to strike (5)

3-31. POWER INTERFACE BOX REPAIR (Cont'd)



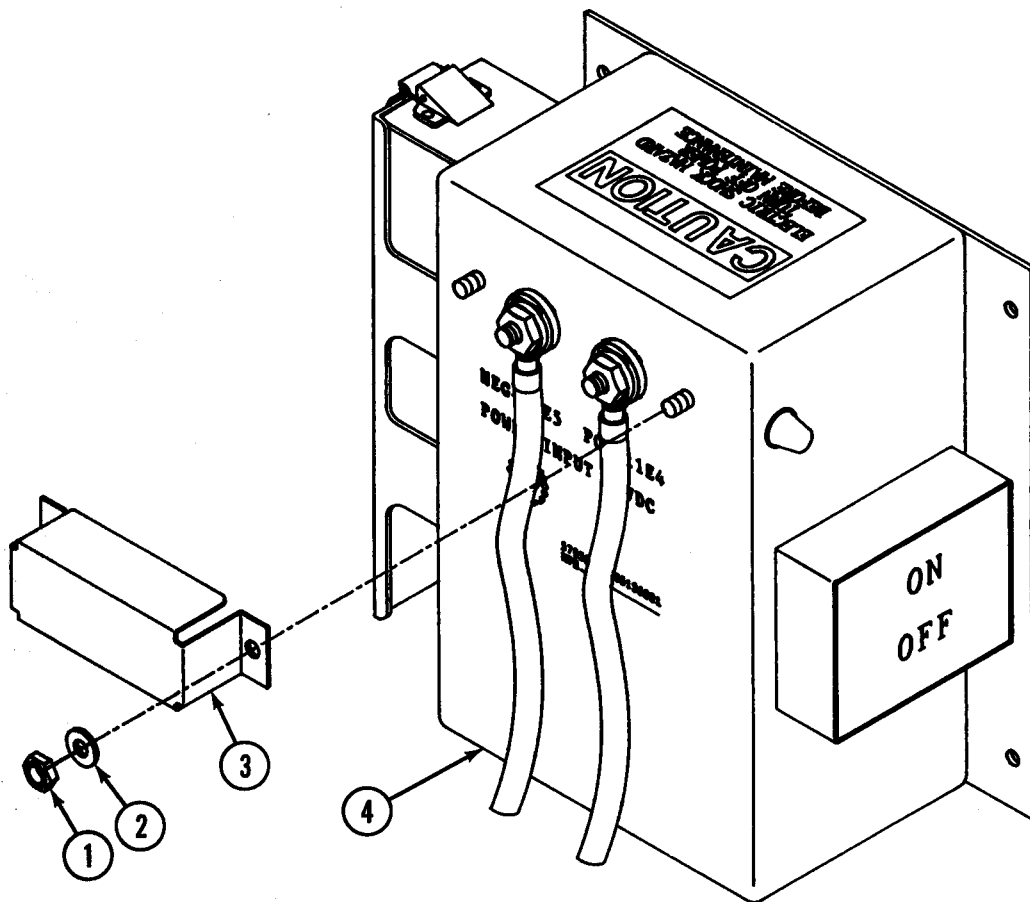
3-31. POWER INTERFACE BOX REPAIR (Cont'd)

g. Terminal Cover Removal

1. Remove two self-locking nuts (1) and washers (2) from terminal cover (3).
2. Remove terminal cover (3) from power interface box (4). Discard self-locking nuts (1).

h. Terminal Cover Installation

1. Install terminal cover (3) on power interface box (4) and secure with two washers (2) and self-locking nuts (1).

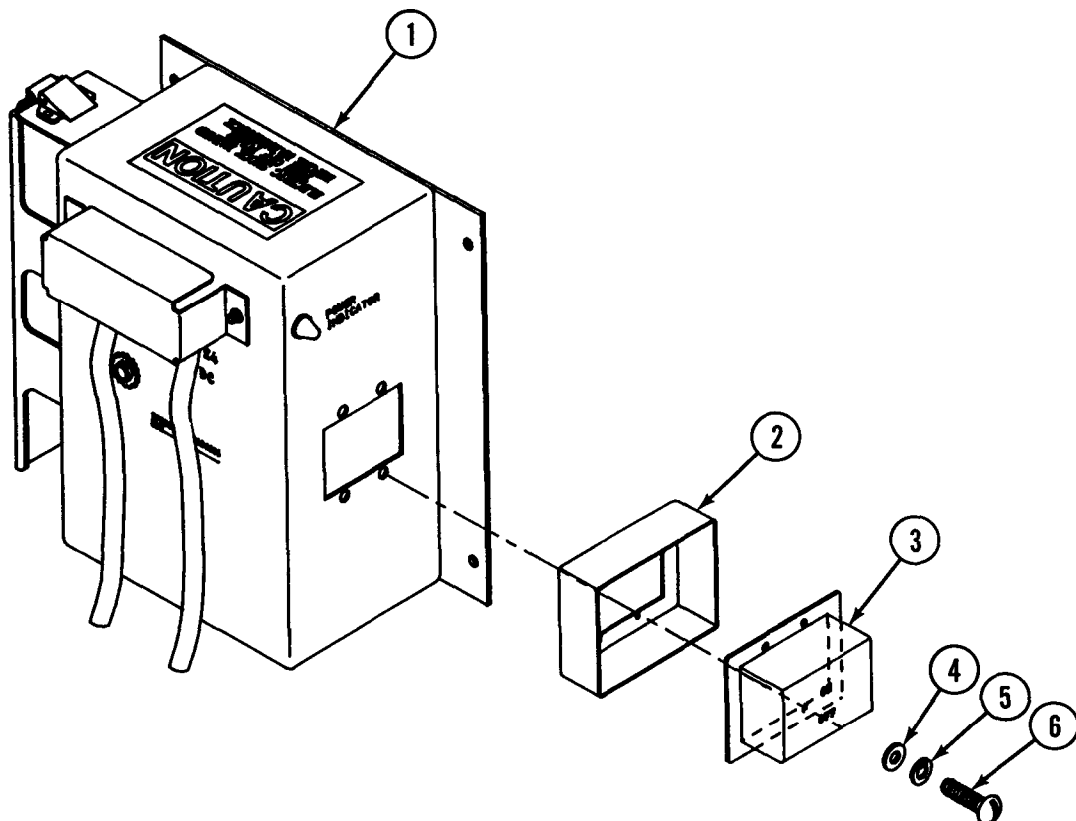


3-31. POWER INTERFACE BOX REPAIR (Cont'd)**i. Guard and Boot Removal**

1. Remove four screws (6), lockwashers (5), and washers (4) from boot (3).
2. Remove boot (3) and guard (2) from power interface box (1). Discard lockwashers (5).

j. Guard and Boot Installation

1. Install boot (3) and guard (2) on power interface box (1) and secure with four washers (4), lockwashers (5), and screws (6).



3-31. POWER INTERFACE BOX REPAIR (Cont'd)

k. Cable W67 Removal

1. Remove two self-locking nuts (1) and washers (2) from terminal cover (3). Remove terminal cover (3) from power interface box (9). Discard self-locking nuts (1).
2. Remove nut (4), lockwasher (5), and washer (6) from terminal 11E4 (10),
3. Remove cable W67 (8) from terminal 11E4 (10).

l. Cable W67 Installation

- Install cable W67 (8) onto power terminal 11E4 (10) and secure with washer (6), lockwasher (5), and nut (4).
2. Install terminal cover (3) on power interface box (9) and secure with two washers (2) and self-locking nuts (1).

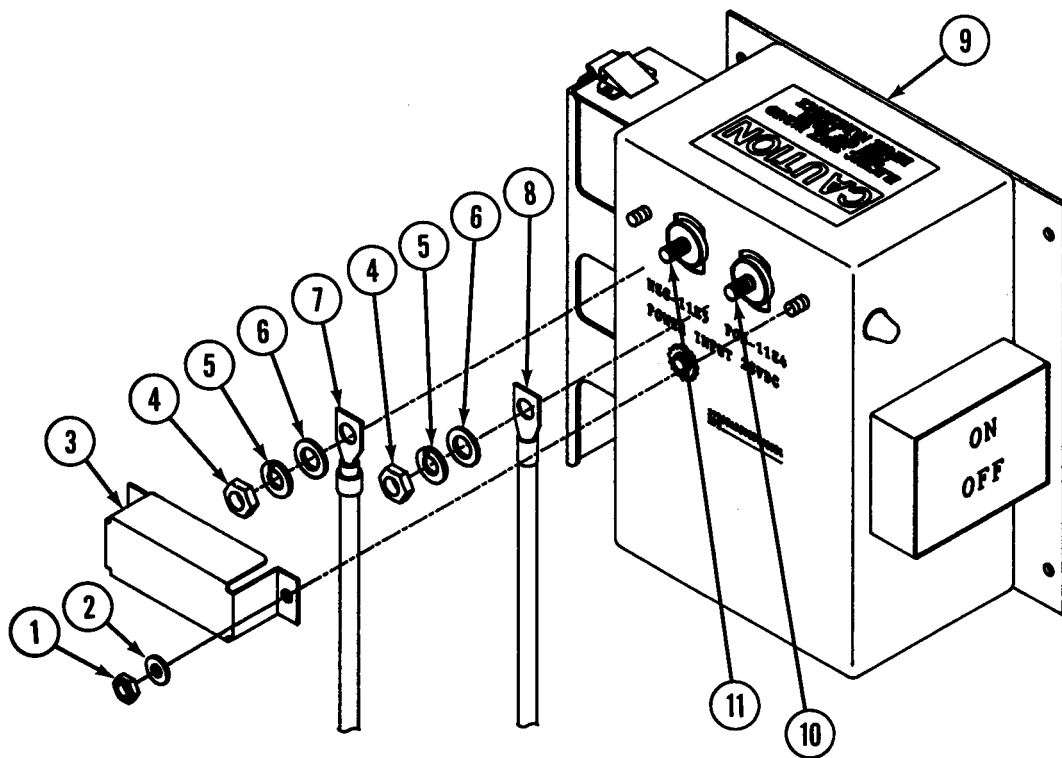
m. Cable W69 Removal

1. Remove two self-locking nuts (1) and washers (2) from terminal cover (3). Remove terminal cover (3) from power interface box (9). Discard self-locking nuts (1).
2. Remove nut (4), lockwasher (5), and washer (6) from terminal 11E5 (11).
3. Remove cable W69 (7) from terminal 11E5 (11).

n. Cable W69 Installation

1. Install cable W69 (7) onto power terminal 11E5 (11) and secure with washer (6), lockwasher (5), and nut (4).
2. Install terminal cover (3) on power interface box (9) and secure with two washers (2) and self-locking nuts (1).

3-31. POWER INTERFACE BOX REPAIR (Cont'd)



FOLLOW-ON TASK: Install power interface box (para 3-30b)

3-32. INCANDESCENT LAMP AND LENS REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

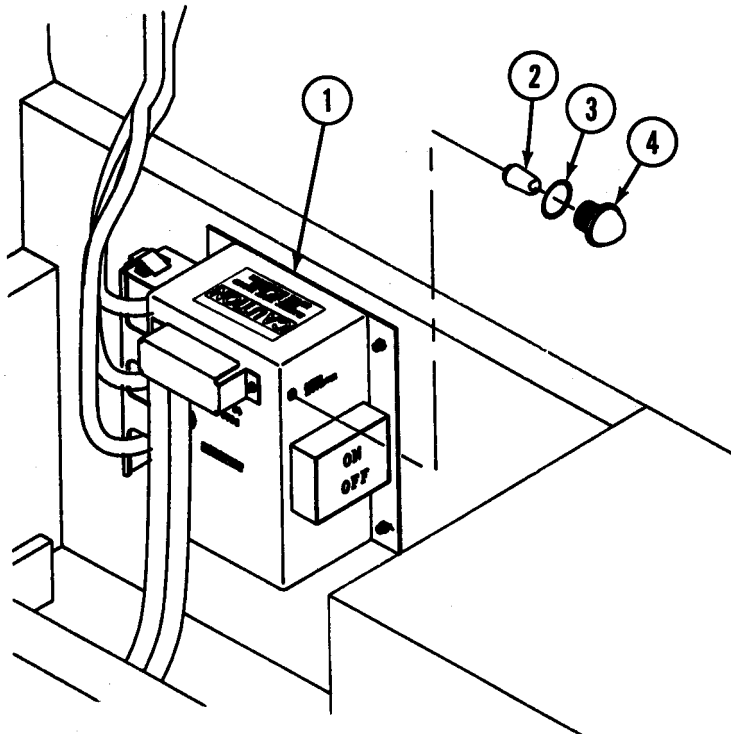
Equipment Condition

Circuit breaker is off

a. Removal

1. Remove lens (4) and O-ring (3) from power interface box (1).
2. Separate lens (4) from incandescent lamp (2).

1. Install incandescent lamp (2) into lens (4).
2. Install lens (4) and O-ring (3) on power interface box (1).



FOLLOW-ON TASK: Turn on circuit breaker.

3-33. 200 AMP ALTERNATOR REPLACEMENT

NOTE

Refer to TM 9-2320-280-20 for replacement of the 200 amp alternator.

3-34. 200 AMP ALTERNATOR GROUND STRAP REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Materials/Parts

Copper shield
(Appendix C, Item 2)

Manual Reference

TM 9-2320-280-10
TM 9-2320-280-20

Equipment Condition

- Hood raised and secured
(TM 9-2320-28-10)
- Battery ground cable disconnected
(TM 9-2320-280-20)

a. Removal

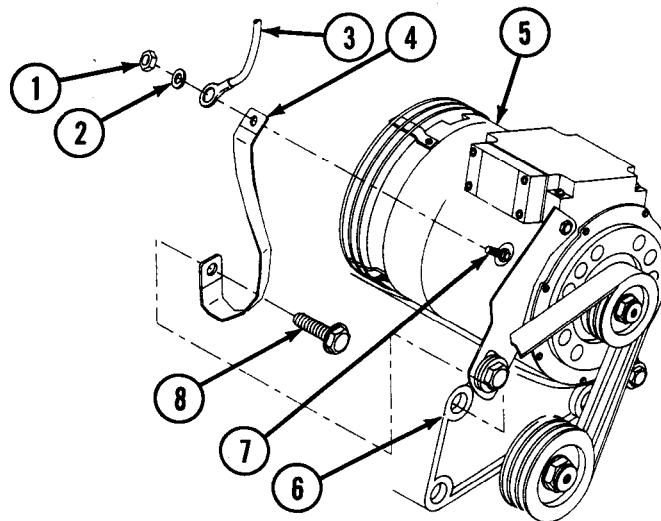
1. Remove nut (1) and lockwasher (2) from ground stud (7). Retain lockwasher (2) for installation.
2. Remove bolt (8) from upper hole on mounting bracket (6) and remove ground strap (4).

b. Install

NOTE

Ensure terminal is clean before connection is made

1. Apply copper shield sparingly to bolt surface of ground strap (4).
2. Insert bolt (8) through hole in ground strap (4).
3. Install bolt (8) and ground strap (4) to upper hole on mounting bracket (6). Tighten to 48 lb-ft (65 Nm).
4. Install ground strap (4) and lead 3B (3) to ground stud (7) and secure with lockwasher (2) and nut (1). Tighten nut (1) to 96-144 lb-in. (11-16 N.m).



- FOLLOW-ON TASKS:
- Connect battery ground cable (TM 9-2320-280-20).
 - Lower and secure hood (TM 9-2320-280-10).

3-35. 200 AMP ALTERNATOR PULLEY REPLACEMENT

NOTE

Refer to TM 9-2320-280-20 for replacement of the 200 amp alternator pulley.

3-36. ENGINE OIL PRESSURE GAGE REPLACEMENT

NOTE

Refer to TM 9-2320-280-20 for electrical gage replacement. Must be PN C5136382 (see figure 24 in appendix D of this manual).

3-37. COOLANT TEMPERATURE GAGE REPLACEMENT

NOTE

Refer to TM 9-2320-280-20 for electrical gage replacement. Must be PN C5136383 (see figure 24 in appendix D of this manual).

3-38. FUEL GAGE REPLACEMENT

NOTE

Refer to TM 9-2320-280-20 for electrical gage replacement. Must be PN C5136384 (see figure 24 in appendix D of this manual).

CHAPTER 4. DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE**Section I. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT****4-1. COMMON TOOLS AND EQUIPMENT**

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

4-2. SPECIAL TOOLS AND SUPPORT EQUIPMENT

Special tools and support equipment are listed and illustrated in Appendix D of this manual.

4-3. TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE)

Calibrate all measuring and test equipment used to determine equipment conformance with TB 43-180.

4-4. REPAIR PARTS

Repair parts are listed and illustrated in Appendix D of this manual.

Section II. DIRECT SUPPORT TROUBLESHOOTING**4-5. GENERAL**

a. Information in this section is for use by support maintenance personnel in conjunction with, and as a supplement to, troubleshooting procedures in TM 9-2320-280-20 and TM 9-2320-280-34.

b. Direct support troubleshooting, table 4-1, contains instructions that will help you diagnose and correct malfunctions of the components of the EES kit.

c. The troubleshooting procedures in this section cannot give all the answers or correct all malfunctions encountered. However, these procedures are an organized step-by-step study of a problem that directs tests and inspections toward the source of a problem and successful correction.

d. Do the easiest things first. Most troubles are easily corrected. Never overlook the chance that the problem could be of simple origin.

e. Doublecheck before disassembly. The source of most problems can be traced to more than one part in a system.

f. Before correcting a problem, diagnose the cause of the problem. Do not allow the same failure to occur again.

4-6. DIRECT SUPPORT TROUBLESHOOTING

Table 4-1. Direct Support Troubleshooting

MALFUNCTION**TEST OR INSPECTION****CORRECTIVE ACTION**

1. INCANDESCENT LAMP IS NOT LIT ON POWER INTERFACE BOX WHEN CIRCUIT BREAKER IS ON.

NOTE

When measuring +28 VDC, use ± 2 VDC for tolerance,

WARNING

Serious injury could result if safety precautions are not followed when troubleshooting this equipment.

- Step 1. Turn off circuit breaker on power interface box.
- Step 2. Remove lens and incandescent lamp from power interface box .
- Step 3. Turn on circuit breaker.
- Step 4. Measure voltage at lamp socket.
 If multimeter does not read about +28 VDC, proceed to step 5.
 If multimeter reads about +28 VDC, turn off circuit breaker and replace incandescent lamp and lens (para. 3-31).
- Step 5. Measure voltage at terminal 11E4.
 If multimeter does not read about +28 VDC, proceed to step 6.
 If multimeter reads about +28 VDC, proceed to step 7.
- Step 6. Open battery compartment (TM 9-2320-280-20). Measure voltage at power stud.
 If multimeter does not read about +28 VDC, test batteries (TM 9-2320-280-20).
 If multimeter reads about +28 VDC, turn off circuit breaker and replace power cables (para. 4-19).
- Step 7, Remove power interface box cover.
 Measure voltage at load side of circuit breaker.
 If multimeter does not read about +28 VDC, replace circuit breaker (para. 4-8).
 If multimeter reads about +28 VDC, replace indicator light and wire assemblies (para. 4-9).

Section III. ELECTRICAL COMPONENTS MAINTENANCE

4-7. ELECTRICAL COMPONENTS MAINTENANCE TASK SUMMARY

| TASK PARA . | PROCEDURES | PAGE NO. |
|----------------|--|-------------|
| 4-8. | Circuit Breaker Replacement | 4-4 |
| 4-9. | Indicator Light and Wire Assemblies Repair | 4-8 |
| 4-10. | Power Interface Box Terminal Replacement | 4-12 |

4-8. CIRCUIT BREAKER REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Materials/Parts

Four lockwashers
P/N MS35338-138

Materials/Parts (Cont'd)

One gasket P/N C5136331
One lockwasher P/N MS35338-122

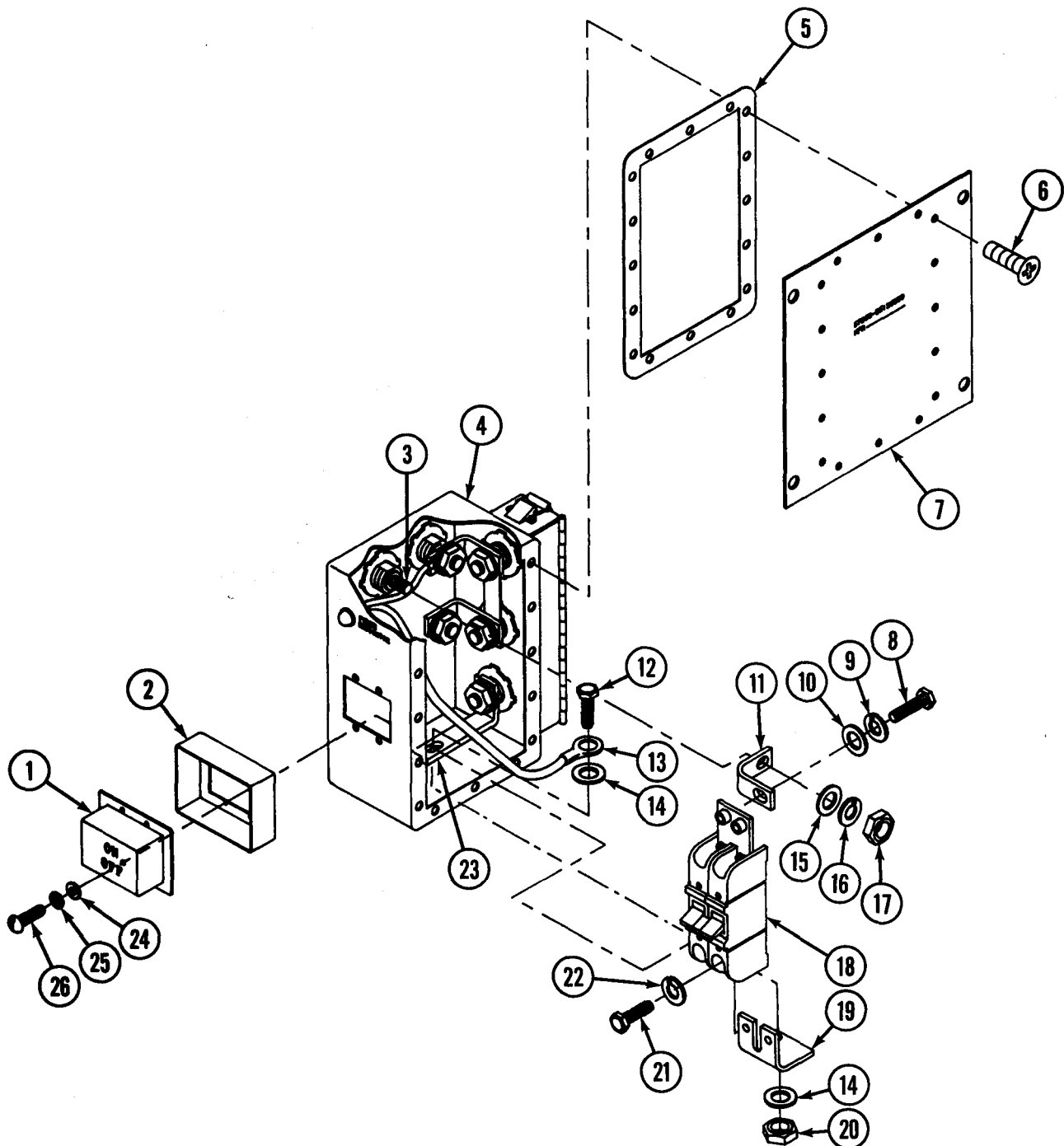
Equipment Condition

Power interface box removed
(para. 3-30a)

a. Removal

1. Remove sixteen screws (6), cover (7), and gasket (5) from power interface box (4). Discard gasket (5).
2. Remove screw (12), wire assembly lead (13), washers (14), and nut (20) that secure bus bar (19) to bus bar (23).
3. Remove nut (17), lockwasher (16), and washer (15) that secure bus bar (11) to terminal 11E4 (3).
4. Remove four screws (26), lockwashers (25), and washers (24) from guard (2). Discard lockwashers (25).
5. Remove guard (2) and boot (1) from power interface box (4).
6. Remove circuit breaker (18) from power interface box (4).
7. Remove screw (8), lockwasher (9), and washer (10) from circuit breaker (18). Remove bus bar (11) from circuit breaker (18). Discard lockwasher (9),
- a. Remove two screws (21) and lockwashers (22) from circuit breaker (18). Remove bus bar (19) from circuit breaker (18).

4-8. CIRCUIT BREAKER REPLACEMENT (Cont'd)

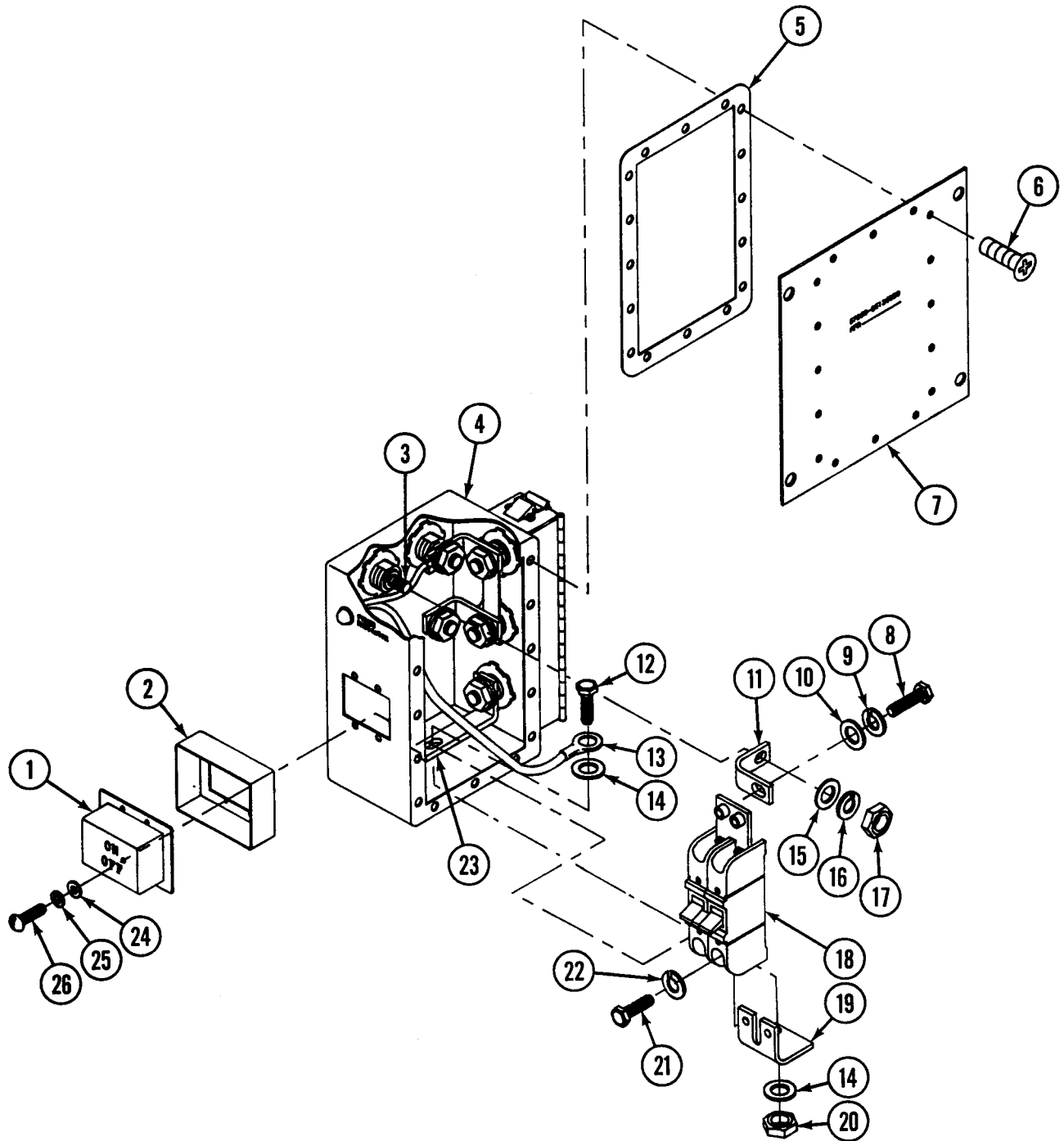


4-8. CIRCUIT BREAKER REPLACEMENT (Cont'd)

b. Installation

1. Install bus bar (19) on load side of circuit breaker (18) and secure with two lockwashers (22) and screws (21).
2. Install bus bar (11) on line side of circuit breaker (18) and secure with washer (10), lockwasher (9), and screw (8).
3. Install circuit breaker (18) into power interface box (4).
4. Install boot (1) and guard (2) onto power interface box (4) and secure with four washers (24), lockwashers (25), and screws (26).
5. Secure bus bar (11) to terminal 11E4 (3) with washer (15), lockwasher (16), and nut (17).
6. Secure wire assembly lead (13), bus bar (23), and bus bar (19), with washers (14), screw (12), and nut (20).
7. Install gasket (5) and cover (7) on power interface box (4) and secure with sixteen screws (6).

4-8. CIRCUIT BREAKER REPLACEMENT (Cont'd)



FOLLOW-ON TASK: Install power interface box (para. 3-30b).

4-9. INDICATOR LIGHT AND WIRE ASSEMBLIES REPAIR

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)
Soldering gun (Item 3,
Section III, Appendix B)
Multimeter, AN/URM-105C (Item 3,
Section III, Appendix B)

Materials/Parts

Four lockwashers
P/N MS35338-138
One gasket P/N C5136331

Materials/Parts (Cont)

One indicator light
P/N 367-8430-09-503
One wire assembly
P/N C5136333
One wire assembly
P/N C5136332
Solder, tin alloy (Appendix C,
Item 8)

Equipment Condition

Power interface box removed
(para. 3-30a)

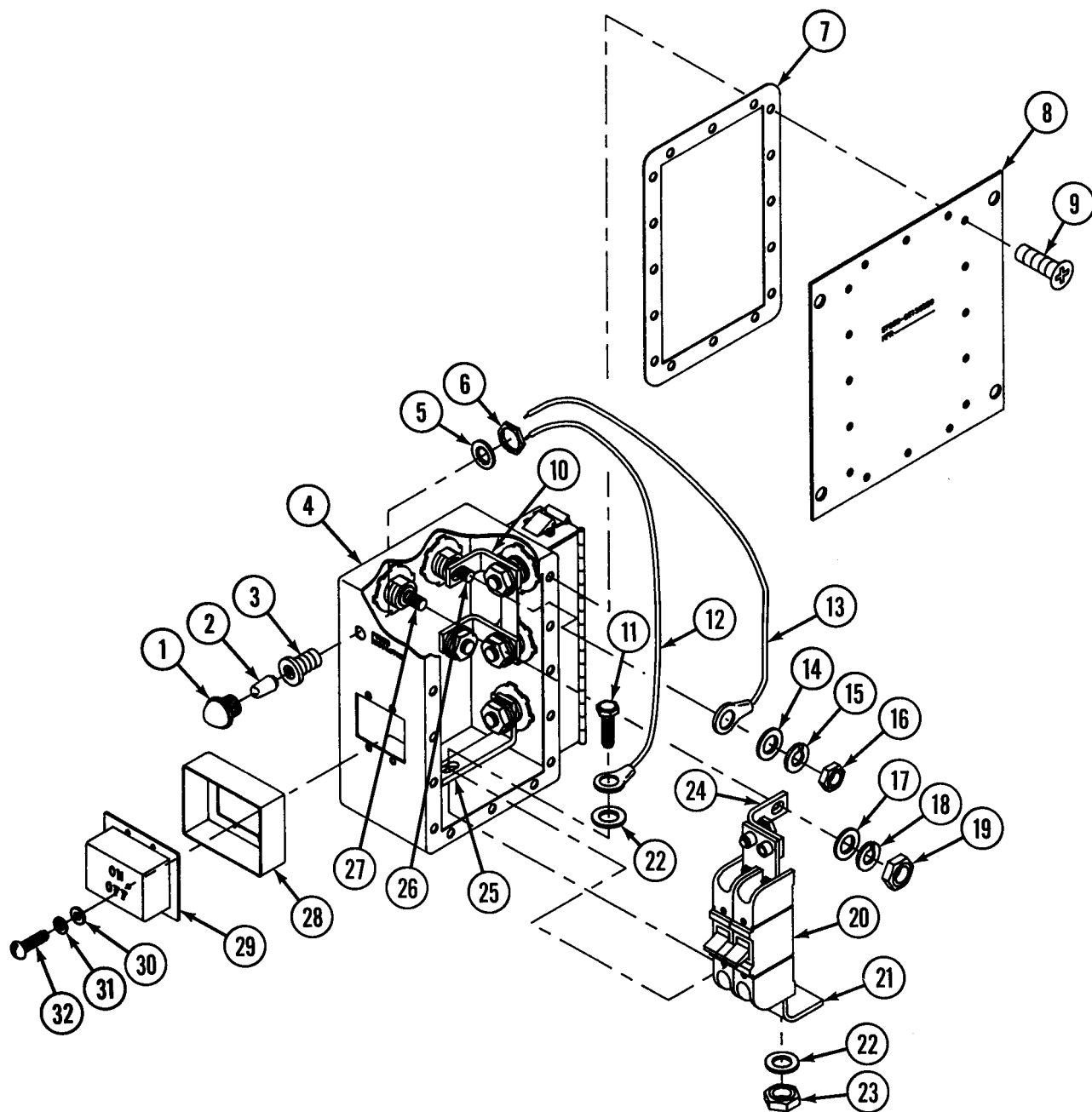
NOTE

Tag wires for installation.

a. Removal

1. Remove sixteen screws (9), cover (8), and gasket (7) from power interface box (4). Discard gasket (7).
2. Remove screw (11), wire assembly lead (12), washers (22), and nut (23) that secure bus bar (21) to bus bar (25).
3. Remove nut (19), lockwasher (18), and washer (17) that secure bus bar (24) to terminal 11E4 (27).
4. Remove four screws (32), lockwashers (31), and washers (30) from guard (28). Discard lockwashers (31).
5. Remove guard (28) and boot (29) from power interface box (4).
6. Remove circuit breaker (20) from power interface box (4).
7. Remove nut (16), lockwasher (15), and washer (14) that secure wire assembly lead (13) and bus bar (10) to terminal 11E5 (26). Detach wire assembly lead (13).
8. Remove indicator light lens (1) and incandescent lamp (2).
9. Remove nut (6) and internal tooth washer (5) on indicator light (3). Remove indicator light (3) from power interface box (4).
10. Perform continuity test on indicator light (3) and wire assembly leads (12) and (13).
11. Desolder wire assembly leads (13) and/or (12) from back of indicator light (3). Discard wire assembly leads (13), (12), and/or indicator light (3).

4-9. INDICATOR LIGHT AND WIRE ASSEMBLIES REPAIR (Cont'd)

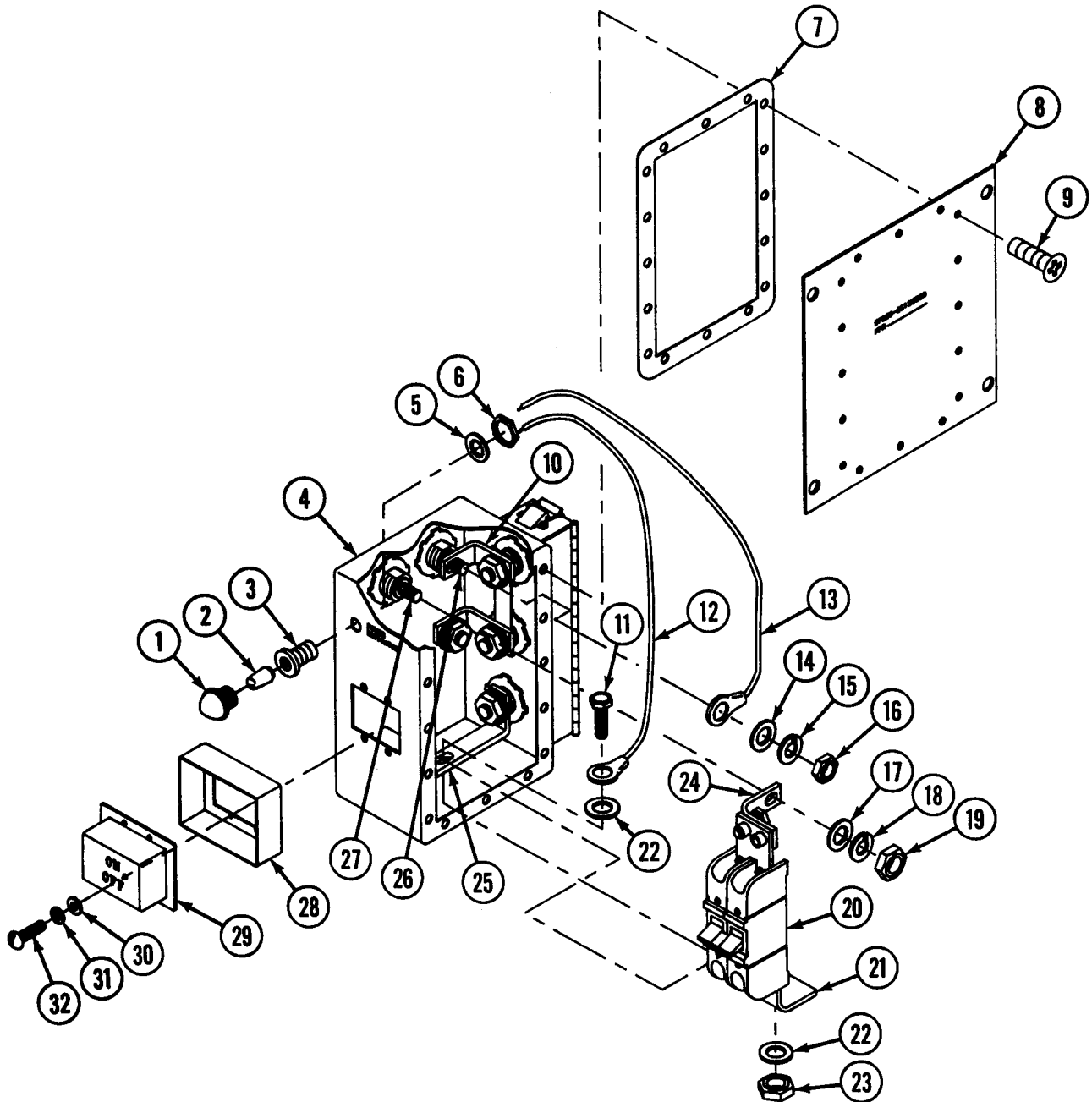


4-9. INDICATOR LIGHT AND WIRE ASSEMBLIES REPAIR (Cont'd)

b. Installation

1. Solder wire assembly leads (13) and/or (12) to back of indicator light (3).
2. Install indicator light (3) into power interface box (4) and secure with internal tooth washer (5) and nut (6).
3. Install incandescent lamp (2) and light lens (1).
4. Place wire assembly lead (13) onto bus bar (10) and terminal 11E5 (26) and secure with washer (14), lockwasher (15), and nut (16).
5. Install circuit breaker (20) into power interface box (4).
6. Install boot (29) and guard (28) onto power interface box (4) and secure with four washers (30), lockwashers (31), and screws (32).
7. Secure bus bar (24) to terminal 11E4 (27) with washer (17), lockwasher (18), and nut (19).
8. Secure wire assembly lead (12), bus bar (25), and bus bar (21) with washers (22), screw (11), and nut (23).
9. Install gasket (7) and cover (8) on power interface box (4) and secure with sixteen screws (9).

4-9. INDICATOR LIGHT AND WIRE ASSEMBLIES REPAIR (Cont'd)



FOLLOW-ON TASK: Install power interface box (para. 3-30b).

4-10. POWER INTERFACE BOX TERMINAL REPLACEMENT

This task covers:

- | | |
|-------------------------------|-------------------------------|
| a. Terminal 11E1 Removal | g. Terminal 11E4 Removal |
| b. Terminal 11E1 Installation | h. Terminal 11E4 Installation |
| c. Terminal 11E2 Removal | i. Terminal 11E5 Removal |
| d. Terminal 11E2 Installation | j. Terminal 11E5 Installation |
| e. Terminal 11E3 Removal | |
| f. Terminal 11E3 Installation | |

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Materials/Parts

One gasket P/N C5136331
Sealant, exterior (Appendix C,
Item 6)

Materials/Parts

Two self-locking nuts
P/N MS21044C3

Equipment Condition

Power interface box removed
(para. 3-30a)

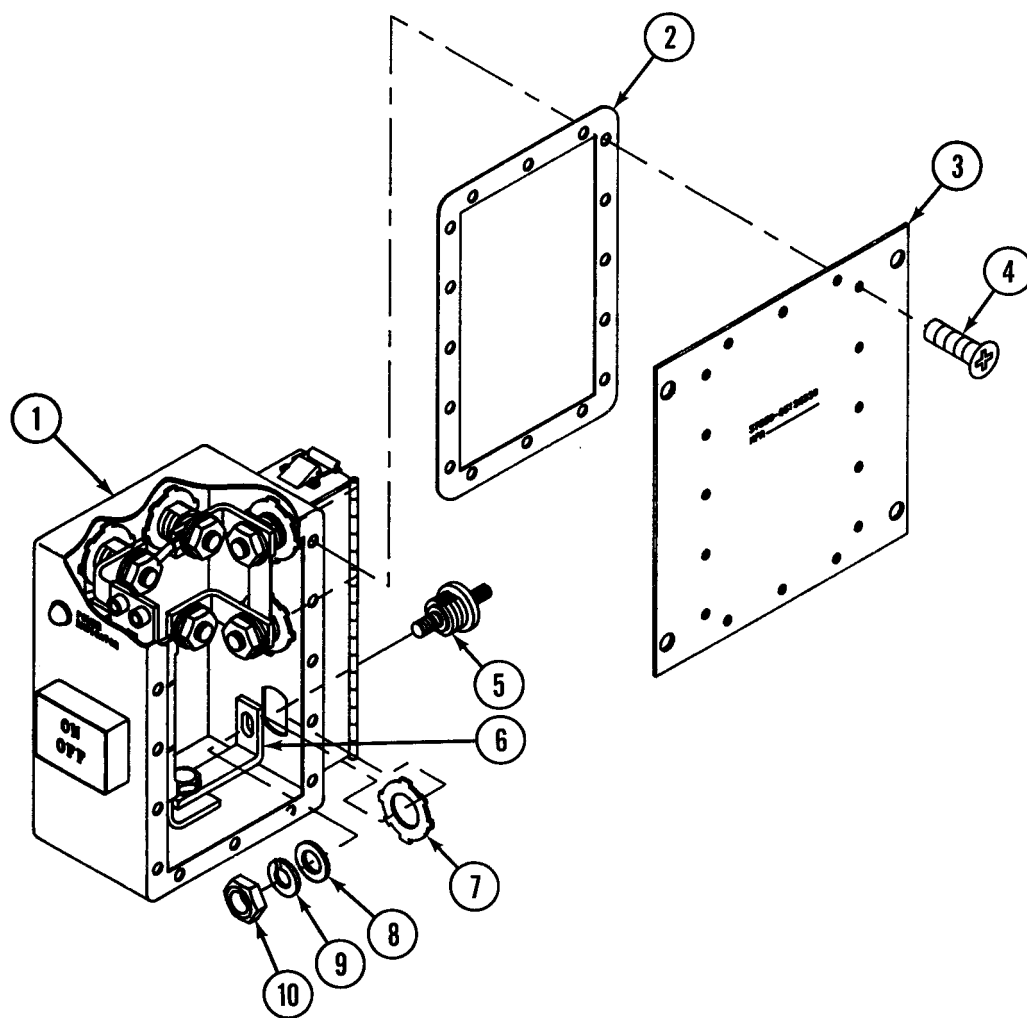
a. Terminal 11E1 Removal

1. Remove sixteen screws (4), cover (3), and gasket (2) from power interface box (1). Discard gasket (2).
2. Remove nut (10), lockwasher (9), and washer (8) that secure bus bar (6) to terminal 11E1 (5).
3. Remove nut (7) from inside terminal 11E1 (5). Remove terminal 11E1 (5).

b. Terminal 11E1 Installation

1. Apply sealant to area of terminal that contacts power interface box (1).
2. Install terminal 11E1 (5) into power interface box (1) and secure with nut (7).
3. Secure bus bar (6) to terminal 11E1 (5) with washer (8), lockwasher (9), and nut (10).
4. Install gasket (2) and cover (3) on power interface box (1) and secure with sixteen screws (4).

4-10. POWER INTERFACE BOX TERMINAL REPLACEMENT (Cont'd)



4-10. POWER INTERFACE BOX TERMINAL REPLACEMENT (Cont'd)

c. Terminal 11E2 Removal

1. Remove sixteen screws (8), cover (7) , and gasket (6) from power interface box (1). Discard gasket (6).
2. Remove nut (2), lockwasher (3), and washer (4) that secure bus bar (5) and bus bar (11) to terminal 11E2 (9).
3. Remove nut (12) from inside terminal 11E2 (9) and remove terminal 11E2 (9).

d. Terminal 11E2 Installation

1. Apply sealant to area of terminal that contacts power interface box (1).
2. Install terminal 11E2 (9) into power interface box (1) and secure with nut (12).
3. Secure bus bar (11) and bus bar (5) to terminal 11E2 (9) with washer (4), lockwasher (3), and nut (2).
4. Install gasket (6) and cover (7) on power interface box (1) and secure with sixteen screws (8).

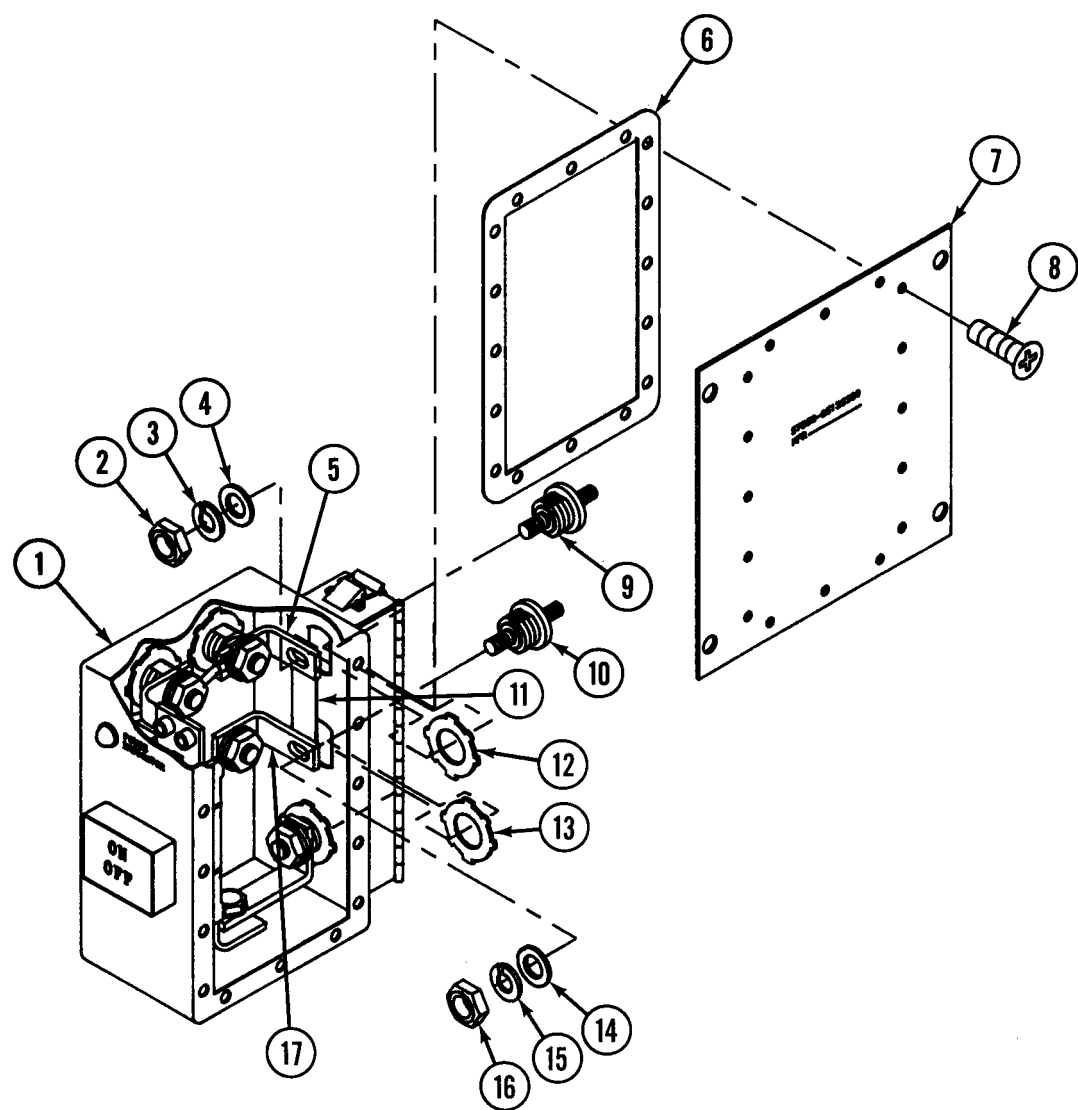
e. Terminal 11E3 Removal

1. Remove sixteen screws (8), cover (7) , and gasket (6) from power interface box (1). Discard gasket (6).
2. Remove nut (16), lockwasher (15), and washer (14) that secure bus bar (17) and bus bar (11) to terminal 11E3 (10).
3. Remove nut (13) from inside terminal 11E3 (10) and remove terminal 11E3 (10).

f. Terminal 11E3 Installation

1. Apply sealant to area of terminal that contacts power interface box (1).
2. Install terminal 11E3 (10) into power interface box (1) and secure with nut (13).
3. Secure bus bar (11) and bus bar (17) to terminal 11E3 (10) with washer (14), lockwasher (15), and nut (16).
4. Install gasket (6) and cover (7) on power interface box (1) and secure with sixteen screws (8).

4-10. POWER INTERFACE BOX TERMINAL REPLACEMENT (Cont'd)



4-10. POWER INTERFACE BOX TERMINAL REPLACEMENT (Cont'd)

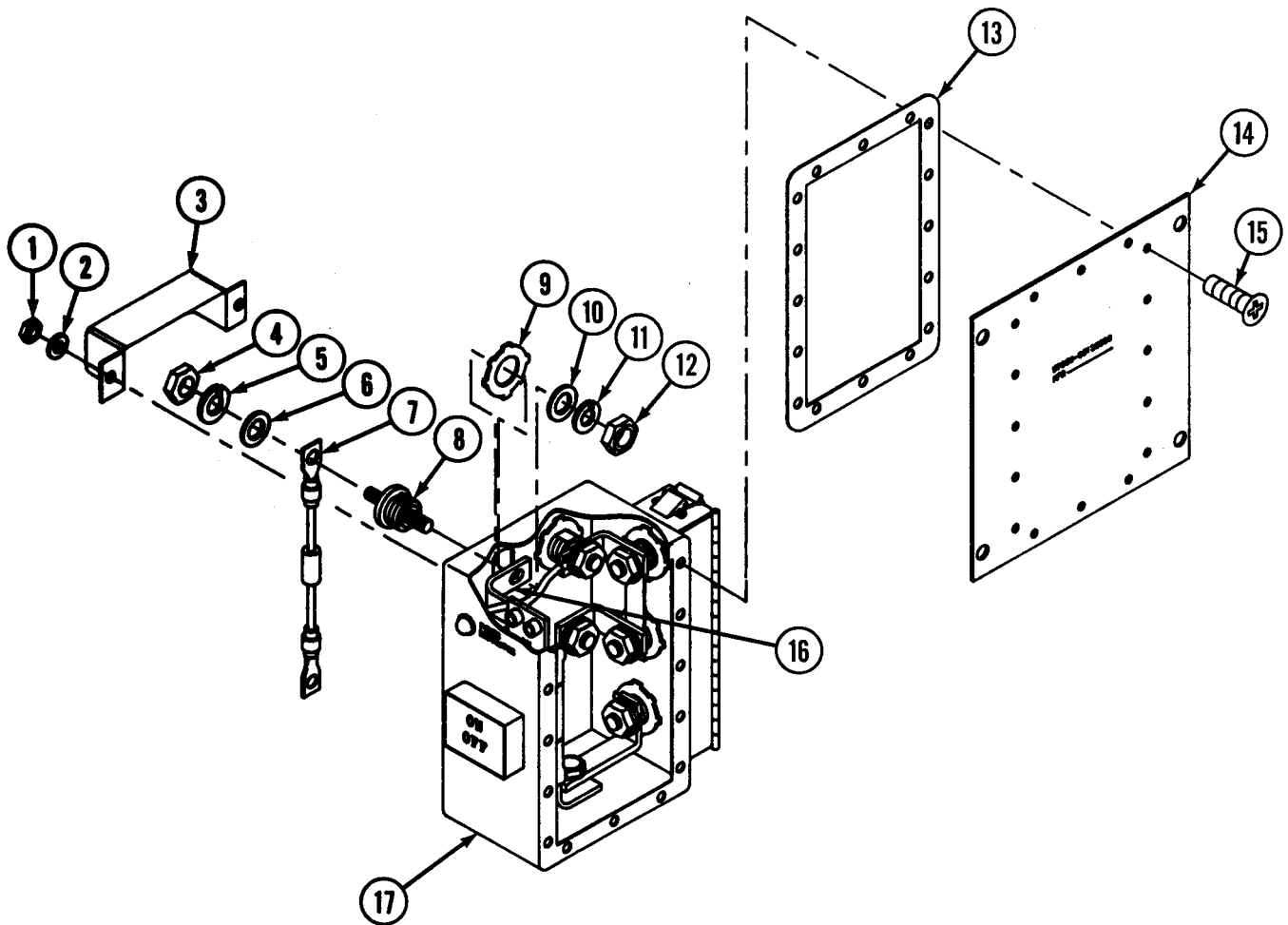
g. Terminal 11E4 Removal

1. Remove two self-locking nuts (1) and washers (2) from terminal cover (3). Remove terminal cover (3) from power interface box (17). Discard self-locking nut (1).
2. Remove nut (4), lockwasher (5), and washer (6) from terminal 11E4 (8). Remove power cable W67 (7) from terminal 11E4 (8).
3. Remove sixteen screws (15), cover (14), and gasket (13) from power interface box (17). Discard gasket (13).
4. Remove nut (12), lockwasher (11), and washer (10) that secure bus bar (16) to terminal 11E4 (8).
5. Remove nut (9) from inside terminal 11E4 (8) and remove terminal 11E4 (8).

h. Terminal 11E4 Installation

1. Apply sealant to area of terminal that contacts power interface box (17).
2. Install terminal 11E4 (8) into power interface box (17) and secure with nut (9).
3. Secure bus bar (16) to terminal 11E4 (8) with washer (10), lockwasher (11), and nut (12).
4. Install gasket (13) and cover (14) on power interface box (17) and secure with sixteen screws (15).
5. Install power cable W67 (7) to terminal 11E4 (8). Secure with washer (6), lockwasher (5), and nut (4).
6. Install terminal cover (3) to power interface box (17) and secure with two washers (2) and self-locking nuts (1).

4-10. POWER INTERFACE BOX TERMINAL REPLACEMENT (Cont'd)



4-10. POWER INTERFACE BOX TERMINAL REPLACEMENT (Cont'd)

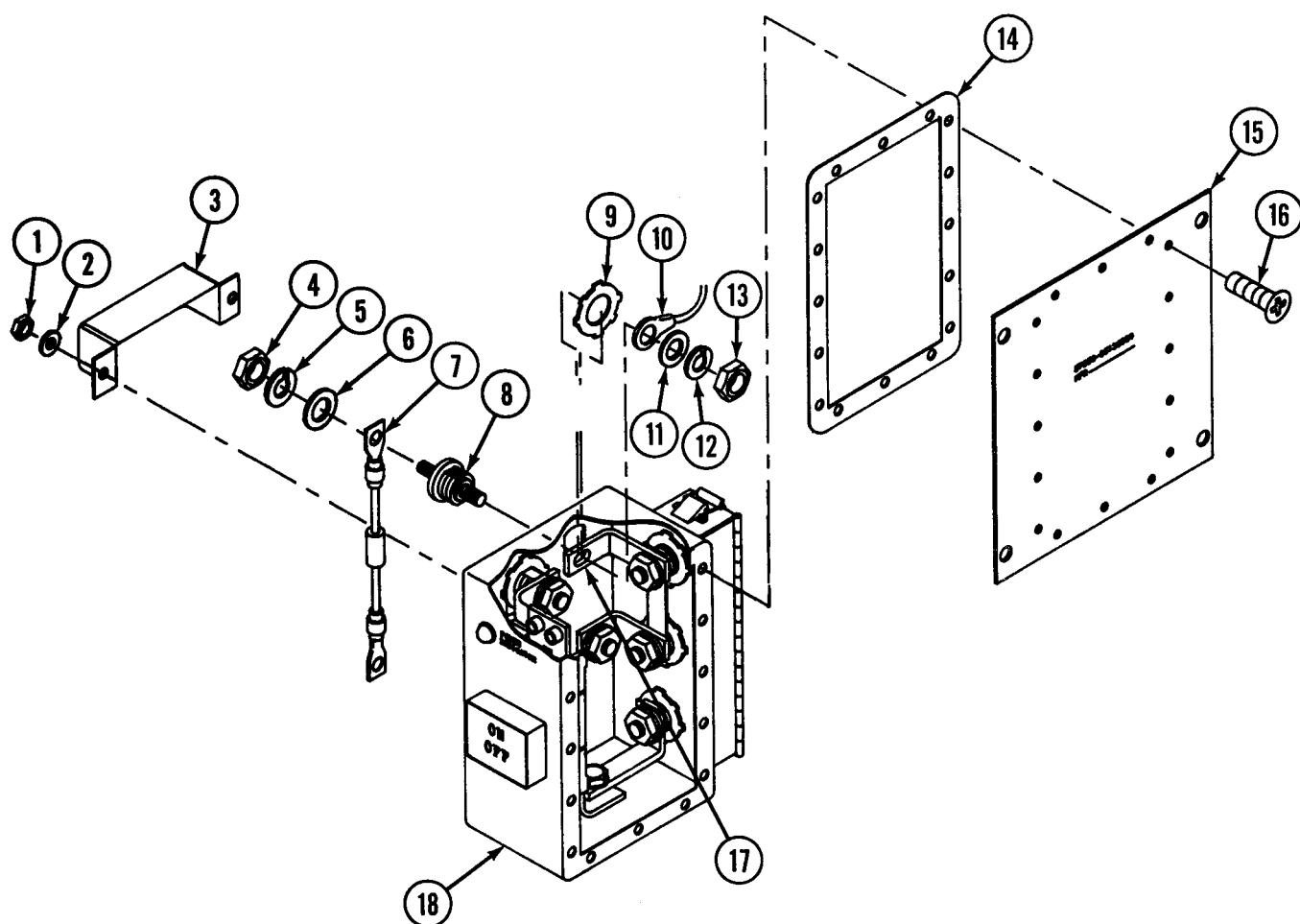
i. Terminal 11E5 Removal

1. Remove two self-locking nuts (1) and washers (2) from terminal cover (3). Remove terminal cover (3) from power interface box (18). Discard self-locking nut (1).
2. Remove nut (4), lockwasher (5), and washer (6) from terminal 11E5 (8). Remove power cable W69 (7) from terminal 11E5 (8).
3. Remove sixteen screws (16), cover (15), and gasket (14) from power interface box (18). Discard gasket (14).
4. Remove nut (13), lockwasher (12), and washer (11) that secure bus bar (17) and wire assembly lead (10) to terminal 11E5 (8).
5. Remove nut (9) from inside terminal 11E5 (8) and remove terminal 11E5 (8).

j. Terminal 11E5 Installation

1. Apply sealant to area of terminal that contacts power interface box (18).
2. Install terminal 11E5 (8) into power interface box (18) and secure with nut (9).
3. Secure bus bar (17) and wire assembly lead (10) to terminal 11E5 (8) with washer (11), lockwasher (12), and nut (13).
4. Install gasket (14) and cover (15) on power interface box (18) and secure with sixteen screws (16).
5. Install power cable W69 (7) to terminal 11E5 (8). Secure with washer (6), lockwasher (5), and nut (4).
6. Install terminal cover (3) to power interface box (18) and secure with two washers (2) and self-locking nuts (1).

4-10. POWER INTERFACE BOX TERMINAL REPLACEMENT (Cont'd)



FOLLOW-ON TASK: Install power interface box (para. 3-30b).

Section IV. ENGINE COMPONENTS MAINTENANCE

4-11. ENGINE COMPONENTS MAINTENANCE TASK SUMMARY

| TASK PARA. | PROCEDURES | PAGE NO. |
|---------------|---------------------------|-------------|
| 4-12. | 200 Amp Alternator Repair | 4-21 |
| 4-13. | Freon Lines Replacement | 4-21 |
| 4-14. | Compressor Maintenance | 4-34 |
| 4-15. | Compressor Replacement | 4-34 |
| 4-16 | Compressor Repair | 4-34 |

4-12. 200 AMP ALTERNATOR REPAIR

NOTE

Refer to TM 9-2320-280-34 for repair of 200 amp alternator.

4-13. FREON LINES REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Item 1, Section III,
Appendix B)

Special Tools

Crowsfoot, 1 3/16-inch
(Item 6, Section III, Appendix B)
Crowsfoot, 1 5/8-inch
(Item 7, Section III, Appendix B)

Materials/Parts

Four lockwashers
P/N MS35338-137
Lubricating oil
(Appendix C, Item 4)
One self-locking nut
P/N MS51943-31
One "O" ring
P/N 12341984-2
One "O" ring
P/N 12341984-4
Tie-straps (as required)
P/N MS3367-1-9

Materials/Parts (Cont'd)

Tie-straps (as required)
P/N MS3367-3-0
Tie-straps (as required)
P/N MS3367-5-9

Personnel Required

One mechanic
One assistant

Manual References

TM 9-2320-280-20
TM 9-2320-280-34

Equipment Conditions

- Air conditioner system discharged (TM 9-2320-280-34)
- Air horn hose removed (TM 9-2320-280-20)
- Companion seat removed (TM 9-2320-280-20)

General Safety Instructions

Air conditioner system must be discharged prior to replacing components.

4-13. FREON LINES REPLACEMENT (Cont'd)

WARNING

Air conditioner system must be discharged prior to replacing components in vapor system. Failure to do this may result in injury to personnel or damage to equipment.

CAUTION

Cover or plug all open lines and connections immediately after disconnection to prevent contamination. Remove all plugs prior to connection.

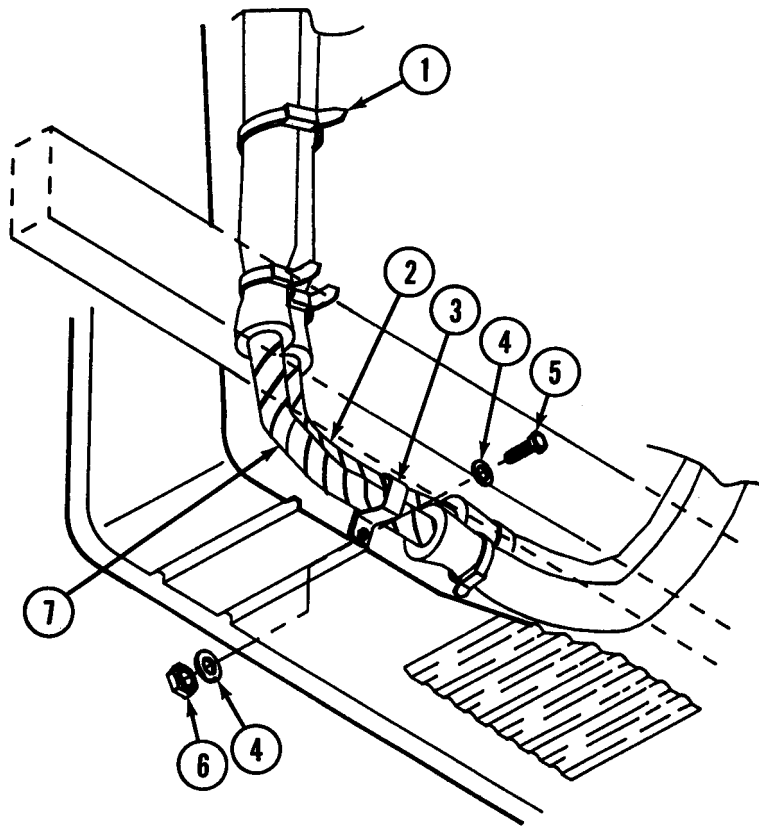
NOTE

Suction hose (low pressure) has a larger diameter than the discharge hose (high pressure); fittings will not interconnect.

a. Removal

1. Remove capscrew (5), two washers (4), and self-locking nut (6) that secure clamp (3), suction hose (7), and discharge hose (2) to underside of body. Discard self-locking nut (6).
2. Remove tie-straps (1) that secure suction hose (7) and discharge hose (2) together. Discard tie-straps (1).

4-13. FREON LINES REPLACEMENT (Cont'd)



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| 4-13. FREON LINES REPLACEMENT (Cont'd) |
|---|

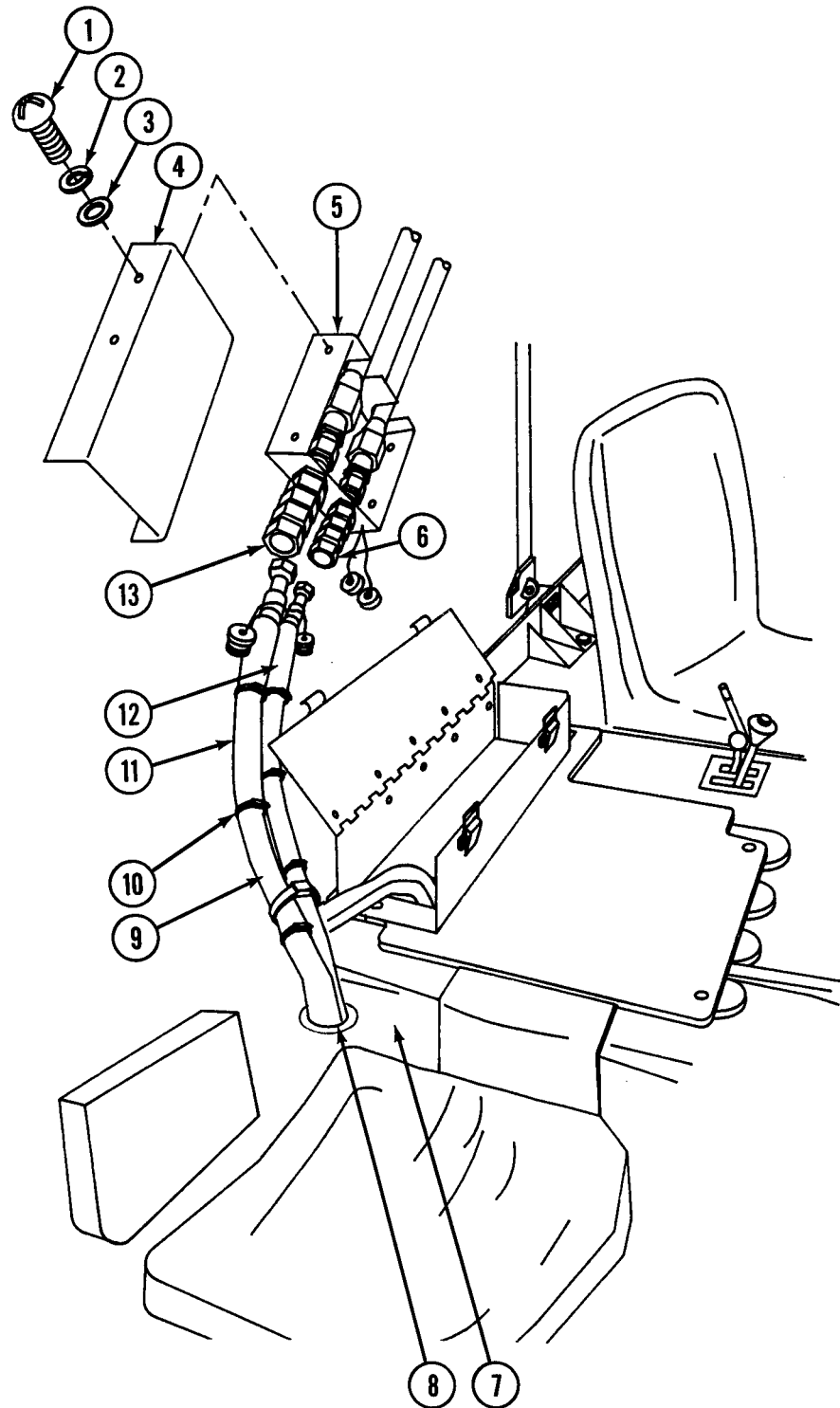
3. Remove four screws (1), lockwashers (2), and washers (3) securing cover (4) to freon line channel (5). Remove cover (4). Discard lockwashers (2),
4. Using 1 5/8-inch crowsfoot, disconnect suction hose (11) from quick disconnect (13). Using 1 3/16-inch crowsfoot, disconnect discharge hose (12) from quick disconnect (6).
5. Remove tie-straps (10) that secure insulation (9) to hoses.

NOTE

Some insulation may need to be cut prior to removal of hoses.

6. Cut and remove insulation (9) from suction hose (11) and discharge hose (12).
7. From under truck, pull suction hose (11) through hole (8) in transmission tunnel (7).
8. From under truck, pull discharge hose (12) through hole (8) in transmission tunnel (7).

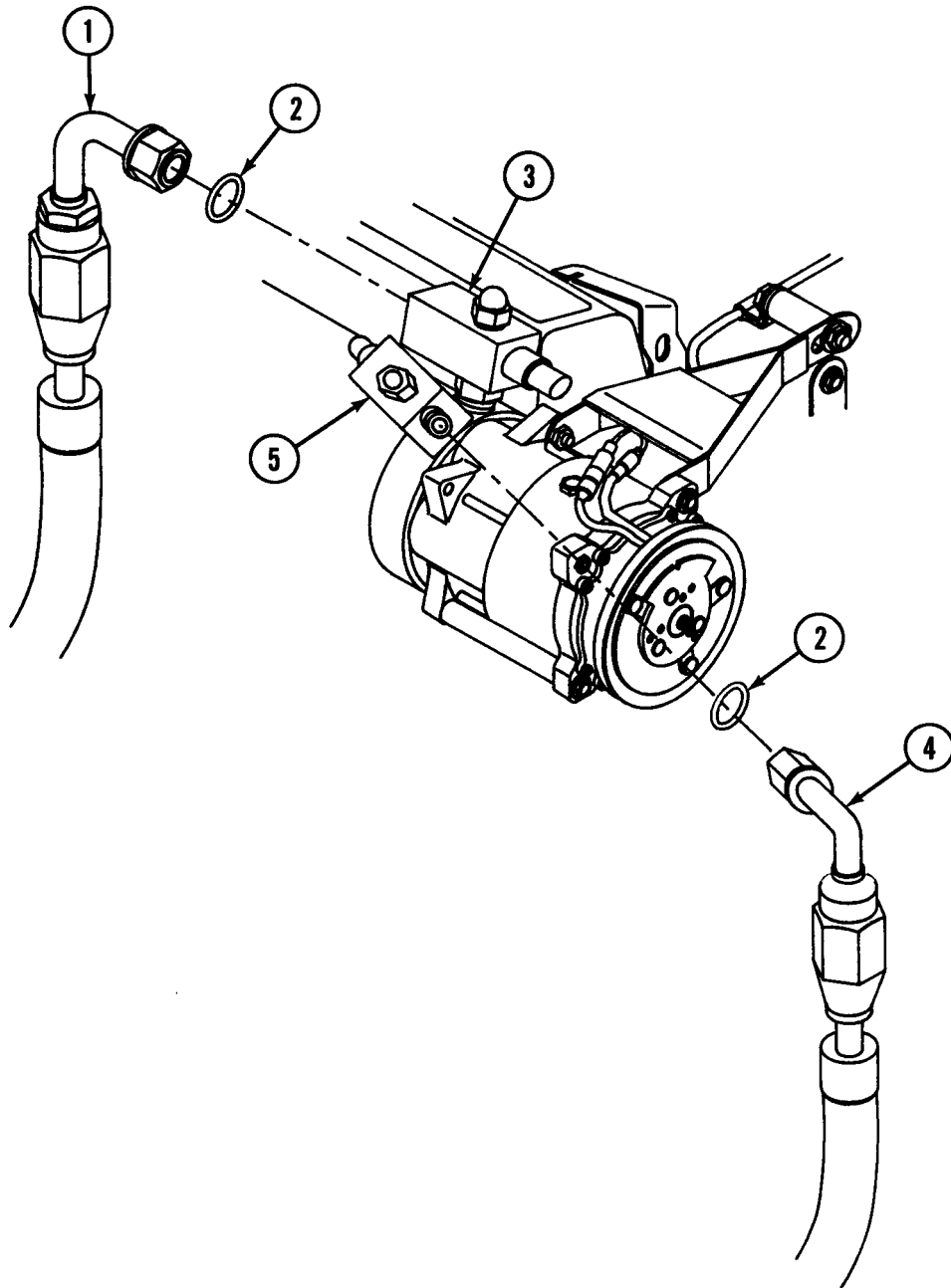
4-13. FREON LINES REPLACEMENT (Cont'd)



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| 4-13. FREON LINES REPLACEMENT (Cont'd) |
|--|

9. Disconnect suction hose (1) and discharge hose (4) from compressor service valve (3) and service valve (5). Remove suction hose (1) and discharge hose (4) from truck.
10. Remove two "O" rings (2) and discard.

4-13. FREON LINES REPLACEMENT (Cont'd)

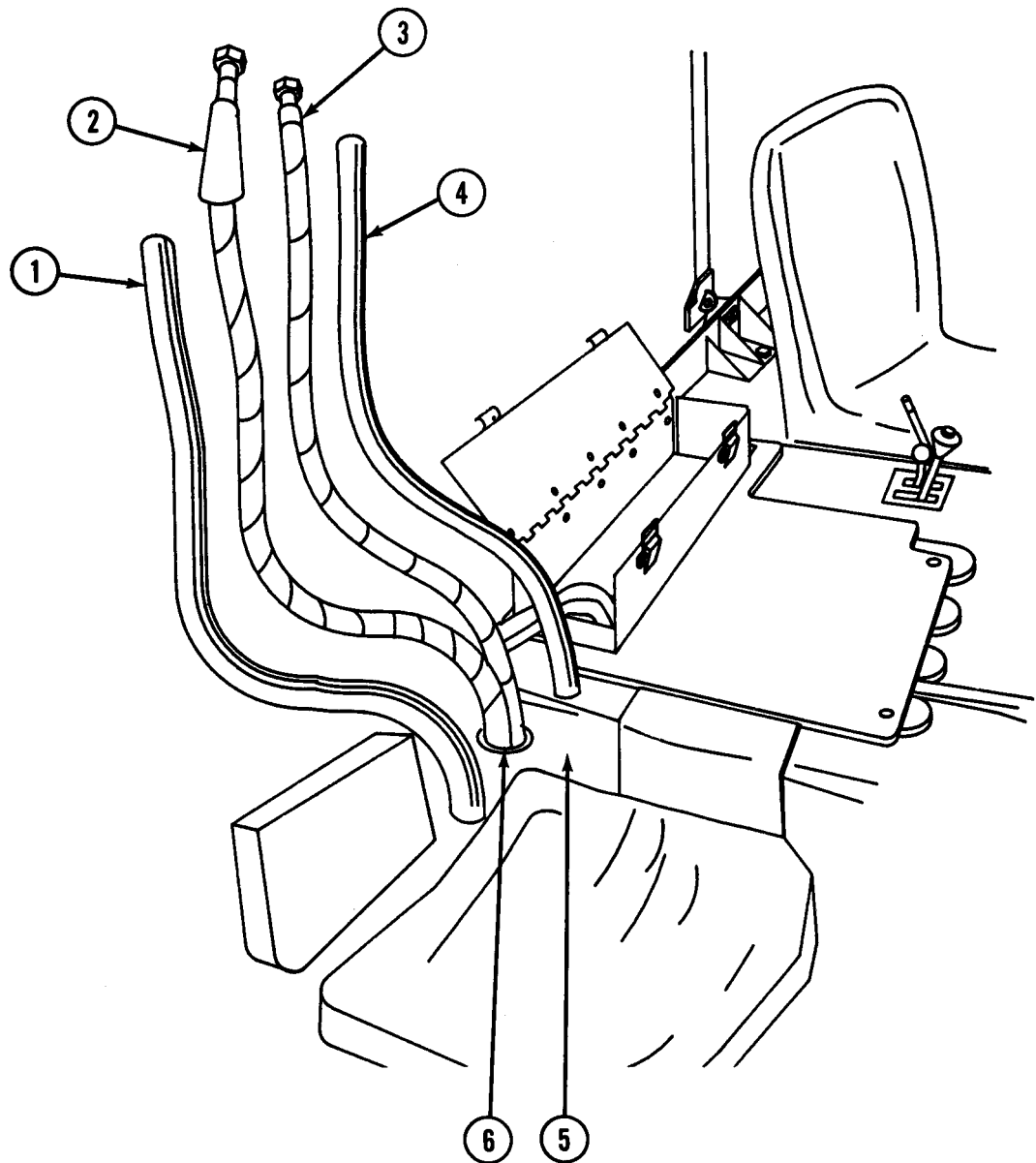


4-13. FREON LINES REPLACEMENT (Cont'd)

b. Installation

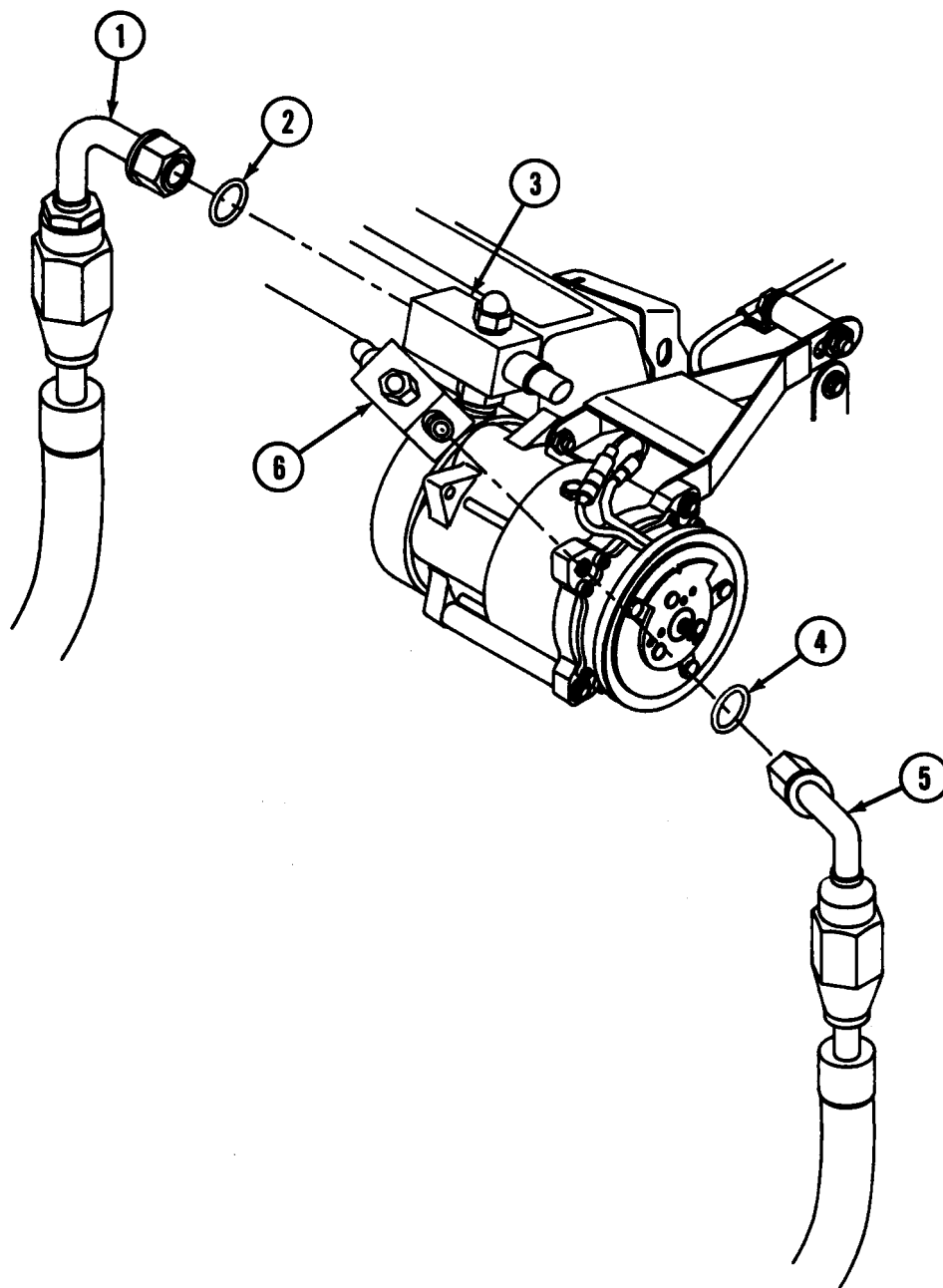
1. Cut insulation (1) from upper section of suction hose (2) as follows:
 - (a) Measure 11 in. (27.94 cm) from end of suction hose (2) and make circular cut around insulation (1).
 - (b) Cut insulation 22 in. (55.88 cm) lengthwise.
 - (c) Make another circular cut around insulation (1) at 33 in. (83.82 cm).
2. Remove insulation (1) from suction hose (2).
3. Trim removed insulation (1) 3 in. (7.62 cm).
4. Cut insulation (4) from upper section of discharge hose (3) as follows:
 - (a) Measure 33 in. (83.82 cm) from end of discharge hose (3) and make circular cut around insulation (4).
 - (b) From end of discharge hose (3), cut insulation lengthwise until circular cut is reached.
5. Remove insulation (4) from discharge hose (3).
6. Trim removed insulation (4) 3 in. (7.62 cm).
7. Pull suction hose (2) up through hole (6) in transmission tunnel (5).
8. Pull discharge hose (3) up through hole (6) in transmission tunnel (5).

4-13. FREON LINES REPLACEMENT (Cont'd)



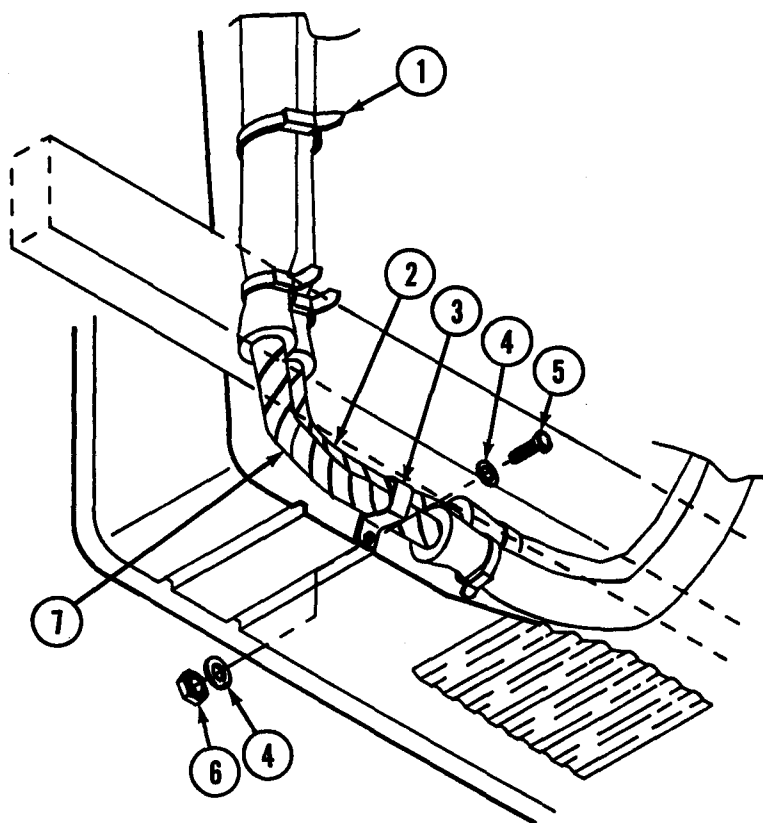
4-13. FREON LINES REPLACEMENT (Cont'd)

9. Lubricate two "O" rings (2) and (4) with lubricating oil.
10. Install larger "O" ring (2) into suction hose (1) and smaller "O" ring (4) into discharge hose (5).
11. Connect suction hose (1) to compressor service valve (3) and discharge hose (5) to service valve (6).



4-13. FREON LINES REPLACEMENT (Cont'd)

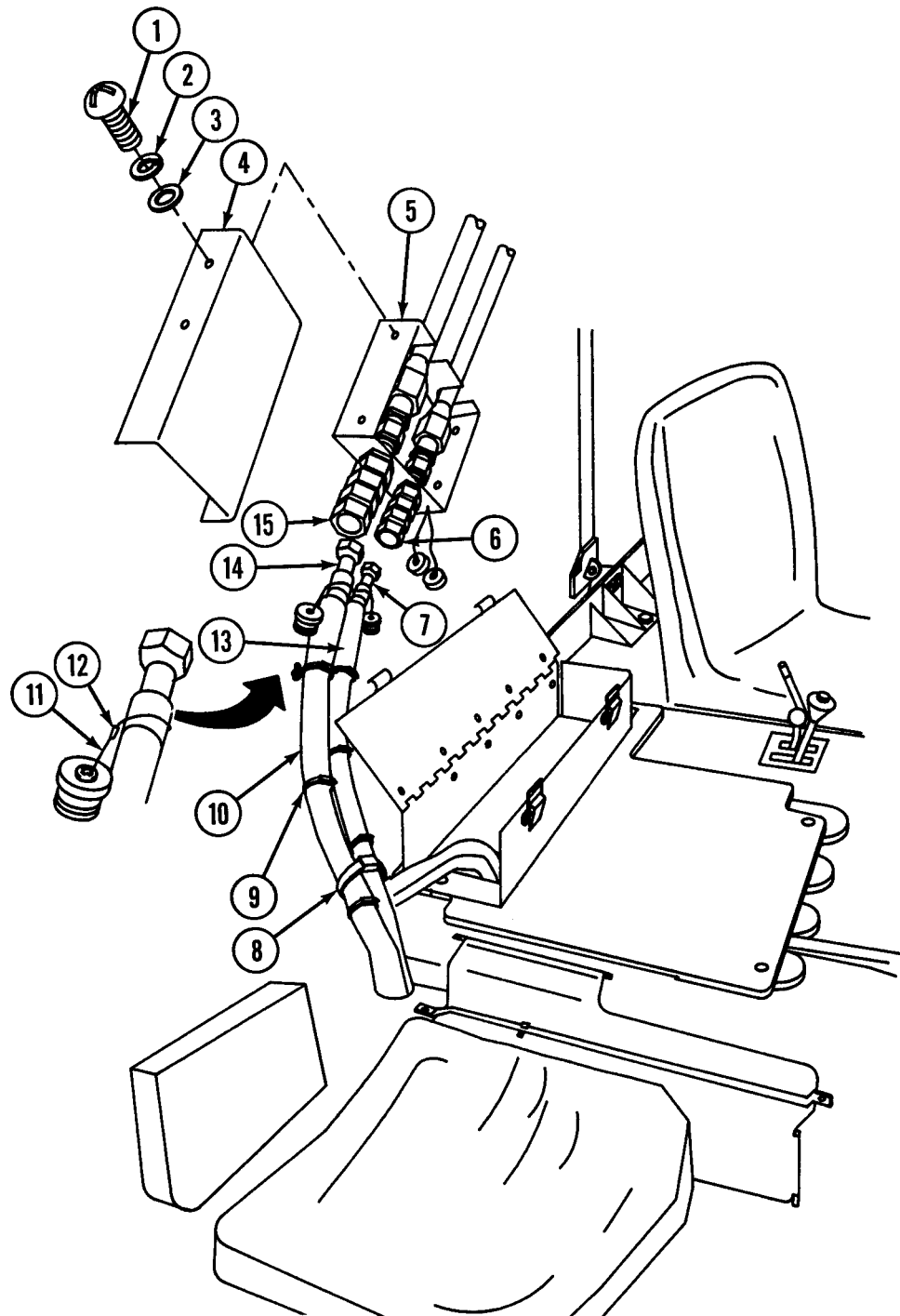
12. Place clamp (3) onto suction hose (7) and discharge hose (2).
13. Install clamp (3), suction hose (7), and discharge hose (2) to underside of body and secure with capscrew (5), two washers (4), and self-locking nut (6).



| |
|--|
| 4-13. FREON LINES REPLACEMENT (Cont'd) |
|--|

14. Place insulation (10) and (13) around suction hose (14) and discharge hose (7). Secure insulation to hoses with tie-straps (9).
15. Install lanyard (11) from large dust cap through swaging sleeve (12). Loop lanyard (11) around suction hose (14) and back through swaging sleeve (12). Crimp swaging sleeve (12).
16. Install lanyard (11) from small dust cap through swaging sleeve (12). Loop lanyard (11) around discharge hose (7) and back through swaging sleeve (12). Crimp swaging sleeve (12).
17. Connect suction hose (14) and discharge hose (7) to quick disconnects (15) and (6).
18. Install cover (4) to freon line channel (5) and secure with four screws (1), lockwashers (2), and washers (3).

4-13. FREON LINE ASSEMBLIES REPLACEMENT (Cont'd)



- FOLLOW-ON TASKS:
- Install companion seat (TM 9-2320-280-20).
 - Install air horn hose (TM 9-2320-280-20).
 - Charge air-conditioning system (TM 9-2320-280-34).

4-14. COMPRESSOR MAINTENANCE

NOTE

Refer to TM 9-2320-280-34 for charging air conditioning system.

4-15. COMPRESSOR REPLACEMENT

NOTE

Refer to TM 9-2320-280-34 for replacement of compressor.

4-16. COMPRESSOR REPAIR

NOTE

Refer to TM 9-2320-280-34 for repair of compressor.

Section V. EES KIT INSTALLATION

4-17. EES KIT INSTALLATION TASK SUMMARY

| TASK PARA. | PROCEDURES | PAGE NO. |
|---------------|----------------------|-------------|
| 4-18. | EES Kit Installation | 4-36 |

4-18. EES KIT INSTALLATION

This task covers:

- | | |
|--|--|
| a. EES Kit Preparation | z. Compressor Mounting Bracket Installation |
| b. Tunnel Interior Side Retaining Rod Installation | aa. Compressor Installation |
| c. Hood Removal | bb. 200 Amp Alternator Cable Installation |
| d. Right Splash Shield Removal | cc. Air Conditioning Service Valves Installation |
| e. Hood Prop Rod and Bracket Removal | dd. Freon Lines Installation |
| f. Left Splash Shield ,Removal | ee. Cable Assembly W66 Installation |
| g. Engine and Transmission Oil Cooler Assembly Removal | ff. Hand Throttle Cable Installation |
| h. Drain Cooling System | gg. Storage Box and Cable Assembly W64 Installation |
| i. Radiator and Fan Shroud Removal | hh. M16 Rifle Mount Installation |
| j. Air Horn to Air Cleaner Elbow Removal | ii. Ladder Mount Installation |
| k. Surge Tank Removal | jj. Power Interface Box Installation |
| l. Surge Tank to Lower Radiator Hose Removal | kk. Tach/Hourmeter Box Installation |
| m. Fan Drive Assembly Removal | ll. Surge Tank Installation |
| n. 60 Amp Alternator Drive Belt Set Removal | mm. Surge Tank to Lower Radiator Hose Installation |
| o. Power Steering Drive Belt Set Removal | nn. Air Horn to Air Cleaner Elbow Installation |
| p. Water Pump Pulley Removal | oo. Power Steering Drive Belt Installation |
| q. Water Pump Pulley Installation | pp. 200 Amp Alternator Drive Belt Set Installation |
| r. 60 Amp Alternator Removal | qq. Compressor Drive Belt Installation |
| s. 60 Amp Alternator Mounting Brackets Removal | rr. Fan Drive Assembly Installation |
| t. 200 Amp Alternator Mounting Brackets Installation | ss. Radiator and Fan Shroud Installation |
| u. 200 Amp Alternator Pulley Installation | tt. Engine and Transmission Oil Cooler Assembly Installation |
| v. 200 Amp Alternator Installation | uu. Left Splash Shield Installation |
| w. 200 Amp Alternator Ground Strap Installation | vv. Hood Prop Rod and Bracket Installation |
| x. 200 Amp Alternator Connectors Installation | ww. Right Splash Shield Installation |
| y. Air Horn Support Bracket Removal | xx. Hood Installation |

| |
|-------------------------------------|
| 4-18. EES KIT INSTALLATION (Cent'd) |
|-------------------------------------|

INITIAL SETUP:**Tools**

Drill bit, # 21 (Item 4,
Section III, Appendix B)
Drill bit set (Item 3,
Section III, Appendix B)
Drill bit, 3/4-inch (Item 4,
Section III, Appendix B)
Electric drill (Item 3,
Section III, Appendix B)
General mechanics tool kit
(Item 1, Section III, Appendix B)

Special Tools

Arbor, hole saw (Item 12,
Section III, Appendix B)
Blade, hole saw (1-5/8") (Item 9,
Section III, Appendix B)
Blade, hole saw (2-1/2") (Item 11,
Section III, Appendix B)
Blade, hole saw (2-5/8") (Item 10,
Section III, Appendix B)
Crowfoot (1-3/16")
(Item 5, Section III, Appendix B)
Crowfoot (1-5/8")
(Item 6, Section III, Appendix B)
punch and die, knockout (1-3/4")
(Item 8, Section III, Appendix B)
Socket wrench attac., hex, 6 mm,
3/8 drive (Item 13, Section III
Appendix B)

Materials/Parts (per each procedure)

- a. EES kit preparation
 - One EES kit template P/N C5136351
 - One insulation template P/N C5136348
 - Two grommets P/N MS35489-27
 - One protector P/N 12339902-7
- b. Tunnel interior side insulation blanket and retainer installation
 - One insulation blanket
P/N 12339041
 - One insulation retainer
P/N 12339018-1
- m. Fan drive assembly removal
 - One compressed air adapter assembly (Appendix E)

Materials/Parts (Cont'd)

- q. Water pump pulley installation
 - Sealing compound (Appendix C, Item 7)
 - One water pump pulley P/N 12338782
- t. 200 amp alternator mounting brackets installation
 - One alternator adjusting bracket
P/N 12340057
 - Two capscrews P/N MS90728-60
(.375-16UNC-2Ax1.000 LG)
 - Two washers
P/N MS27183-13 (3/8 CAD)
 - One alternator bracket P/N 12338786
 - One hex bolt P/N 12340845-2
(M10-1.5X30mm)
 - One support bracket P/N 12342075
- u. 200 amp alternator pulley installation
 - One 200 amp alternator pulley
P/N 12339392
- v. 200 amp alternator installation
 - One alternator fan guard assembly
P/N 12341809
 - Five washers
P/N MS51412-2 (#10 CAD)
 - Five hex head screws P/N 431942
 - One bolt P/N MS35764-854
(7/16-14x2.50GR8)
 - One hex head bolt
P/N MS35764-853 (7/16-14x2.00)
 - One lockwasher P/N MS35338-46
 - One screw P/N MS90728-60
(.375-16UNC-2Ax1.000 LG)
 - One spacer P/N 12338186-62
(.160 THICK)
 - One special stud
P/N 12339406-2 (M10x1.5x30)
 - One 200 amp alternator
P/N 12338796
 - Two lockwashers P/N MS35338-47
(3/8 CAD)
 - Two washers P/N 2436164
(7/16 CAD)

Materials/Parts (Cont'd)

- w. 200 amp alternator ground strap installation
 - Copper shield (Appendix C, Item 2)
 - One grounding strap
P/N 12341151
 - One bolt P/N 12340845-3
(M10-1.5x45mm)
- z. Compressor mounting bracket installation
 - One compressor support bracket P/N 12339906
 - One nut P/N 9145-105-00B
(M10x1.5 CAD)
 - Two studs P/N 12339406-2
(M10x1.5x30)
 - Two washers
P/N 11500324 (#10)
 - One washer P/N 11502474
- aa. Compressor installation
 - One air conditioner compressor assembly
P/N 12340661
 - Air compressor bracket
P/N 12341599
 - Four lockwashers
P/N MS35338-46
 - One capscrew
P/N MS90725-66
(3/8-16x2.00 LG)
 - One lockwasher
P/N 11500207
 - One nut P/N 9145-105-00B
(M10x1.5 CAD)
 - One stud P/N 12339406-2
(M10x1.5x30)
 - Six washers
P/N MS27183-13
 - Three capscrews
P/N MS90725-64
(3/8-16x1.5x30)
 - Two washers P/N 11502474
 - One shoulder bolt
P/N 11502788
- bb. 200 amp alternator cable installation
 - One alternator cable
P/N 12339317
 - Three lockwashers
P/N 11500207

Materials/Parts (Cont'd)

- bb. 200 amp alternator cable installation (Cont'd)
 - One hex nut
P/N 9145-105-00B (#10)
 - One nut/lockwasher assembly P/N 271172
 - Three loop clamps
P/N MS21333-126
 - One loop clamp
P/N MS21333-105
 - Tie-straps (as required)
P/N MS3367-3-0
- cc. Air conditioning service valves installation
 - One valve assembly (A/C discharge)
P/N 12341971-1
 - One valve assembly (A/C suction)
P/N 12341971-2
 - Two "O" rings
P/N 12341984-2
 - Lubricating oil
(Appendix C, Item 4)
- dd. Freon lines installation
 - A/C hose insulation
P/N 818
 - Lubricating oil
(Appendix C, Item 4)
 - One A/C discharge hose assembly P/N C5136360
 - One A/C line clamp
P/N 12341730
 - One self-locking nut
P/N MS51943-31
 - One capscrew
P/N MS90725-6
 - Two washers
P/N MS51412-4
 - One A/C suction hose assembly P/N C5136361
 - One dust plug assembly
P/N C5136162 (.500)
 - One dust plug assembly
P/N C5136163 (.625)
 - One female quick disconnect (A/C suction)
P/N C5136153-5 (.625)

Materials/Parts (Cont'd)

- dd. Freon lines installation (Cont'd)
- One female quick disconnect (A/C discharge)
P/N C5136152-5 (.500)
 - One "O" ring (A/C discharge)
P/N 12341984-4
 - One "O" ring (A/C suction) P/N 12341984-2
 - Two swaging sleeves
P/N MS51844-62
 - Tie-straps (as required)
P/N MS3367-1-9
 - Tie-straps (as required)
P/N MS3367-3-0
 - Tie-straps (as required)
P/N MS3367-5-9
 - Tape, pressure sensitive (as required)
(Appendix C, Item 9)
- ee. Cable assembly W66 installation
- Antiseize compound, conductive (Appendix C, Item 1)
 - Cable assembly W66
P/N C5136366
 - One connector
P/N MS27144-1
 - One loop clamp
P/N MS21333-123
 - One safety tab P/N C5136342
 - One metric hex head cap screw P/N B18231A10020NF
 - One wire no. 798
P/N C5136367
 - Six adapters P/N 8741492
 - Six 3-way connectors
P/N MS27147-1
 - Solder, tin alloy (Appendix C, Item 8)
 - Tie-straps (as required)
P/N MS3367-2-0
 - Two connectors
P/N MS27142-2
- ff. Hand throttle cable installation
- One hand throttle cable
P/N C5136358
 - One hand throttle bracket
P/N C5136357

Materials/Parts (Cent'd)

- ff. Hand throttle cable installation (Cont'd)
- One throttle cable end bracket P/N C5136359
 - Three self-locking nuts
P/N MS17830-4C
- gg. Storage box and cable assembly W64 installation
- One storage box P/N C5136310
 - One cable assembly W64
P/N C5136365
- hh. M16 rifle mount installation
- Eight washers
P/NMS27183-10 (.281 I.D.)
 - Four capscrews
P/N MS90728-8
(.250-20UNC-2Ax1.000 LG)
 - Four machine screws
P/N MS51957-47
 - Four self-locking nuts
P/N MS51943-31
(.250-20UNC-3B)
 - Four self-locking nuts
P/N NAS1022-N08
(.164-32UNC-3B)
 - Rag (Appendix C, Item 5)
 - Six nuts P/N MS51943-33
(.3125-18)
 - Six bolts P/N MS90725-33
(.312-18UNC-2AX.875 LG)
 - Twelve washers
P/N 2436162
 - Two clamp brackets
P/N 12340157
 - Two mounting clamps
P/N 12340487
 - Two rifle supports
P/N 12340142
- ii. Ladder mount installation
- One ladder retaining bracket P/N C5136373
 - Three screws P/N MS51957-81
(.250-20UNC-2Ax.750 LG)
 - Three self-locking nuts
P/N MS51943-31
(.250-20UNC-3B)
 - Six washers P/N MS15795-810
(.281 I.D.)
 - Two self-locking nuts
P/N MS21044C3
(.190-32UNJF-3B)
 - Two screws P/N MS51960-66

Materials/Parts (Cont'd)

- ii. Ladder mount installation (Cont'd)
 - One ladder strap bracket P/N C5136372
 - One ladder strap assembly P/N C5135967
- jj. Power interface box installation
 - One power interface box P/N C5136320
 - Four screws P/N MS51957-81 (.250-20UNC-2Ax.750 LG)
 - Eight washers P/N MS15795-810 (.281 I.D.)
 - Four self-locking nuts P/N MS17830-4C (.250-20UNC-3B)
 - One loop clamp P/N MS21334-32
 - One tapping screw P/N MS51861-47C (.190-16x.750 LG)
 - One capscrew P/N MS18154-60 (.375-16UNC-2Ax1.000 LG)
 - One power cable W67 P/N C5136368-2
 - One power cable W69 P/N C5136368-1
- kk. Tach/hourmeter box installation
 - One tach/hourmeter box P/N C5136334
 - One tach/hourmeter seal P/N C5136339
 - Two self-locking nuts P/N MS21044C3 (.190-32UNJF-3B)
 - One safety lanyard P/N C5136341
- ll. Surge tank installation
 - One surge tank P/N 12340061
- mm. Surge tank to lower radiator hose installation
 - One surge tank to lower radiator hose P/N 12340046

Materials/Parts (Cont'd)

- nn. Air horn to air cleaner elbow installation
 - One air cleaner elbow hose P/N 12338381
- oo. Power steering drive belt installation
 - One power steering drive belt P/N 12339359-14
- pp. 200 amp alternator drive belt set installation
 - One alternator drive belt set P/N 12339359-18
- qq. Compressor drive belt installation
 - One compressor drive belt set P/N 12339359-11

Personnel Required

- One mechanic
- One assistant

Manual References

- LO 9-2320-280-12
- TM 9-2320-280-20
- TM 9-2320-280-20P
- TM 9-2320-280-34
- TM 9-2320-280-34P

Equipment Condition

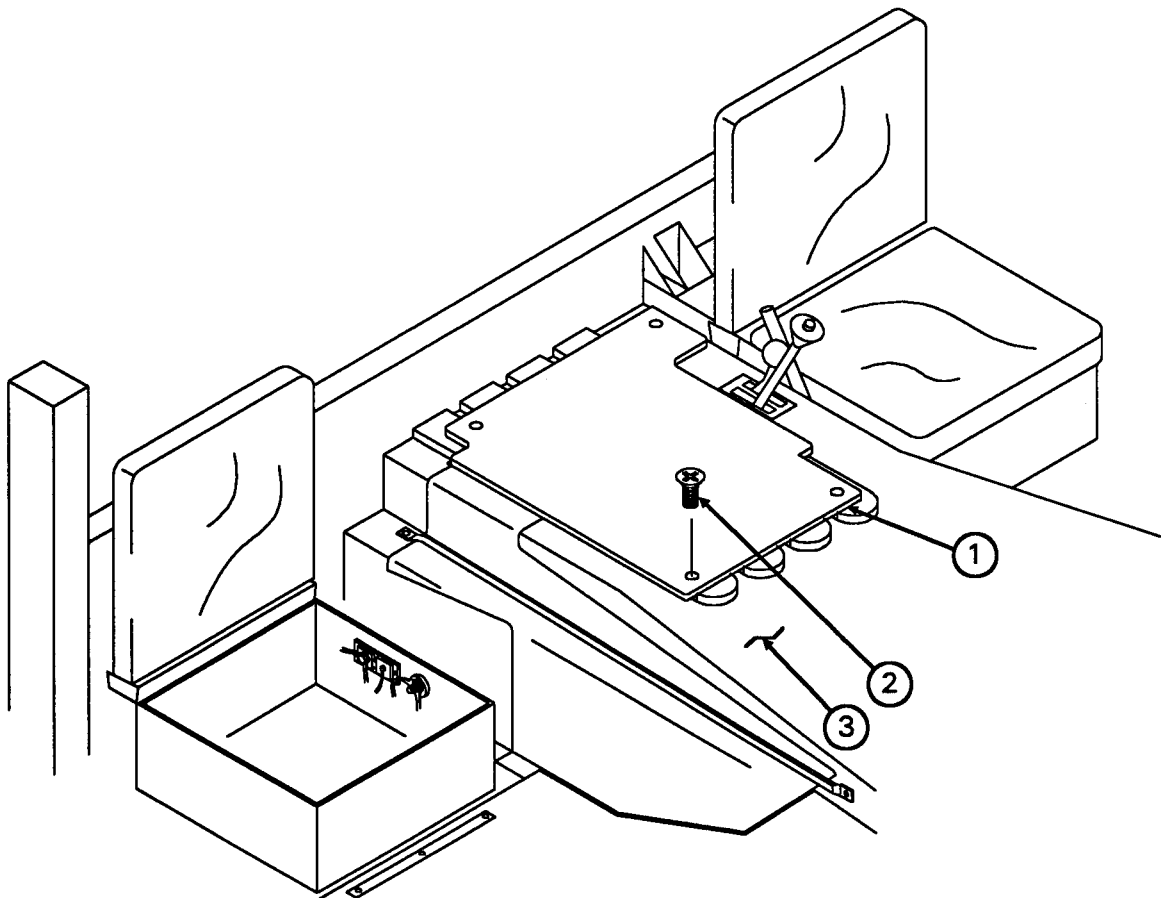
- Batteries removed (TM 9-2320-280-20)
- Engine access cover removed (TM 9-2320-280-20)

General Safety Instructions

- When drilling, be sure to wear goggles for eye protection.
- Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand.
- Wear protective eye wear while performing any soldering

4-18. EES KIT INSTALLATION (Cont'd)**a. EES KIT PREPARATION**

1. Remove four screws (2) securing front floorboard (1) to cargo floor (3) and remove front floorboard (1). Retain screws (2).

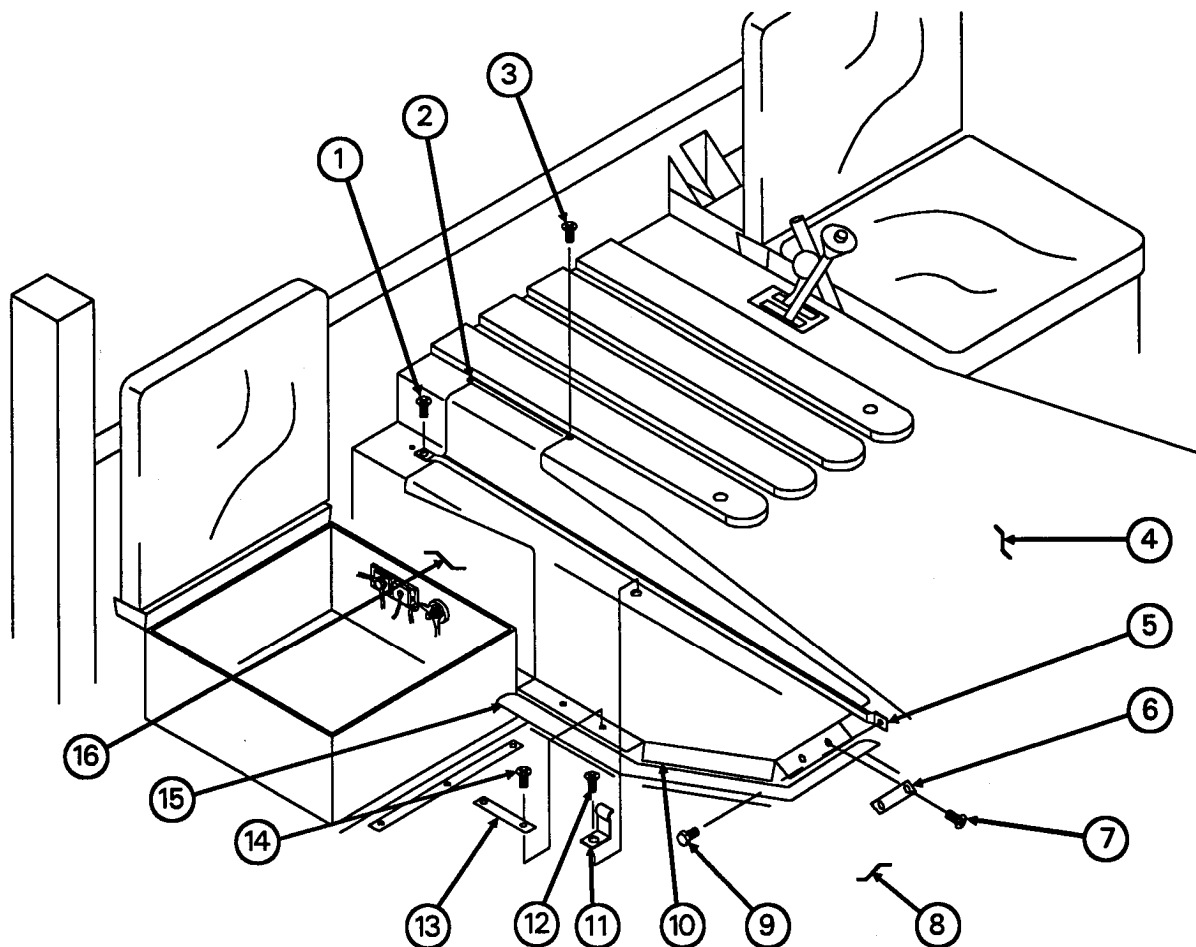


4-18. EES KIT INSTALLATION (Cont'd)

NOTE

After drilling holes, touch-up exposed surfaces with paint to prevent corrosion.

2. Remove two screws (3) securing retaining rod (2) to cargo floor (4) and remove retaining rod (2) from insulation blanket (10). Retain screws (3) and retaining rod (2).
3. Remove one screw (12) and one retaining clip (11) holding insulation retainer (5) to transmission tunnel (16). Retain screw (12) and retaining clip (11).
4. Remove one screw (1) and one bolt (9) securing insulation retainer (5) to transmission tunnel (16) and remove insulation retainer (5). Retain screw (1) and bolt (9).
5. Remove two screws (7) and one retainer (6) securing insulation blanket (10) to floor (8). Retain screws (7) and retainer (6).
6. Lift up right front cowl insulation (15) and remove two screws (14) and one retainer (13) securing insulation blanket (10) to floor (8) and remove insulation blanket (10). Retain screws (14) and retainer (13).

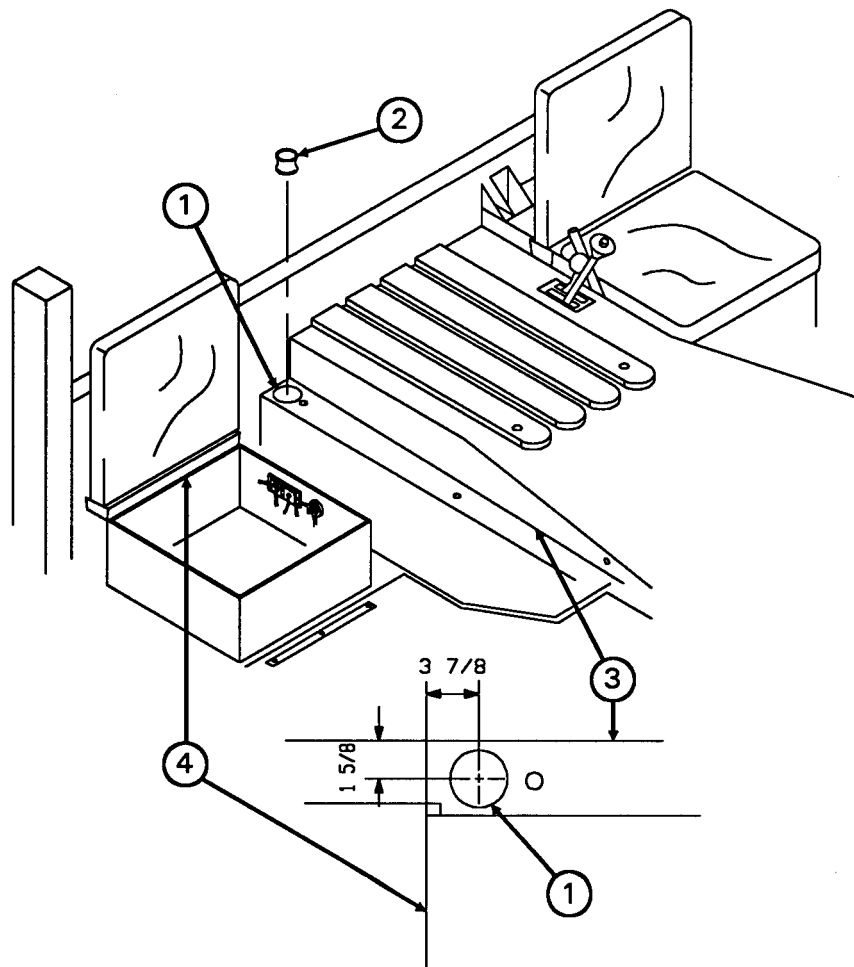


4-18. EES KIT INSTALLATION (Cont'd)

7. Determine center of hole (1) on right side of transmission tunnel (3) as follows:
 - (a) Measure 3 7/8-inch (9.84 cm) from rear of battery box (4), and
 - (b) Measure 1 5/8-inch (4.13 cm) from wall on transmission tunnel (3).

WARNING

- When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.
 - Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand. Failure to do so could result in serious injury.
8. Using 2 5/8-inch hole saw, drill hole (1) in right side of transmission tunnel (3).
 9. Install protector (2) in hole (1).

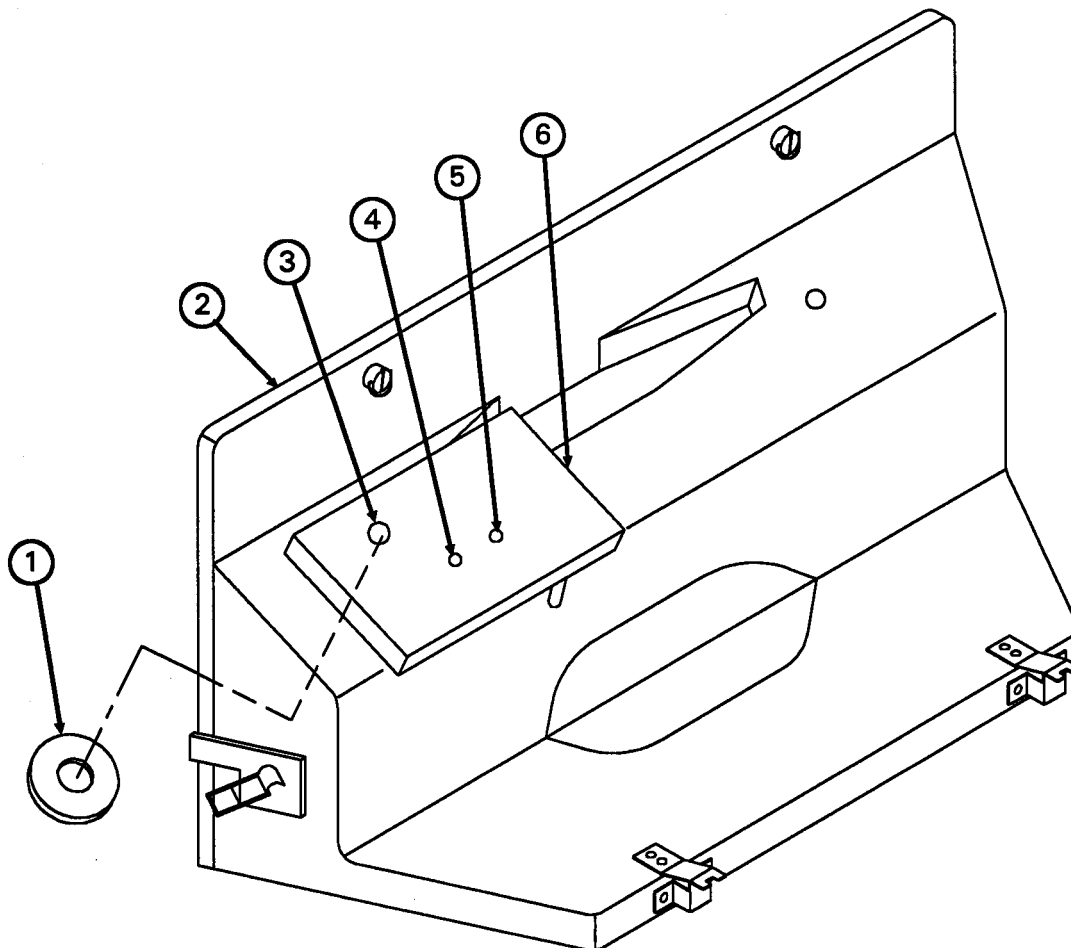


4-18. EES KIT INSTALLATION (Cont'd)

WARNING

When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.

10. Place hole (3) in EES kit template (6) over rivet on engine access cover (2).
Using a 13/64-inch drill bit, drill holes (4) and (5) through engine access cover (2) and insulation.
11. Remove EES kit template (6) and using a 13/64-inch drill bit, drill out rivet from engine access cover (2). Retain backup washer (1) for use on tach/hourmeter box installation.



4-18. EES KIT INSTALLATION (Cont'd)

CAUTION

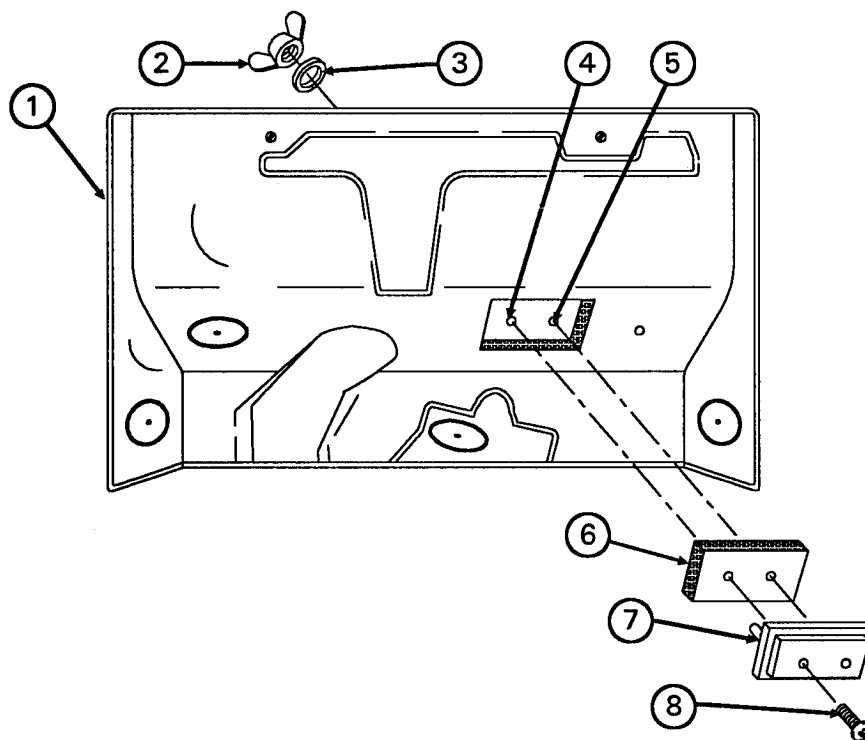
When cutting insulation, do not cut through engine access cover or equipment's effectiveness may be degraded.

12. From underside of engine access cover (1), insert insulation template (7) into holes (4) and (5).
13. Secure template (7) to engine access cover (1) with two screws (8), washers (3), and wing nuts (2).
14. Cut out insulation (6) around outline of insulation template (7). Trim cut edges of insulation as needed.

WARNING

When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.

15. Remove two screws (8), washers (3), and wing nuts (2). Remove insulation template (7).
16. Drilling from front side of engine access cover (1), enlarge hole (5) using 1 5/8-inch hole saw.



4.18 EES KIT INSTALLATION (Cont'd)

17. Remove passenger side fixed rear door (1) (TM 9-2320-280-20).
18. Determine center of four holes (2), (3), (4), and (5) on fixed rear door (1) as follows:
 - (a) Measure 2 inches (5.08 cm) down from top edge and 8 1/2-inches (21.59 cm) over from right edge for hole (2).
 - (b) Measure 12 inches (30.48 cm) down from top edge and 8 1/2-inches (21.59 cm) over from right edge for hole (3).
 - (c) Measure 19 inches (48.26 cm) over from right edge and 12 inches (30.48 cm) down from top edge for hole (4).
 - (d) Measure 2 inches (5.08 cm) down from top edge and 19 inches (48.26 cm) over from right edge for hole (5).

WARNING

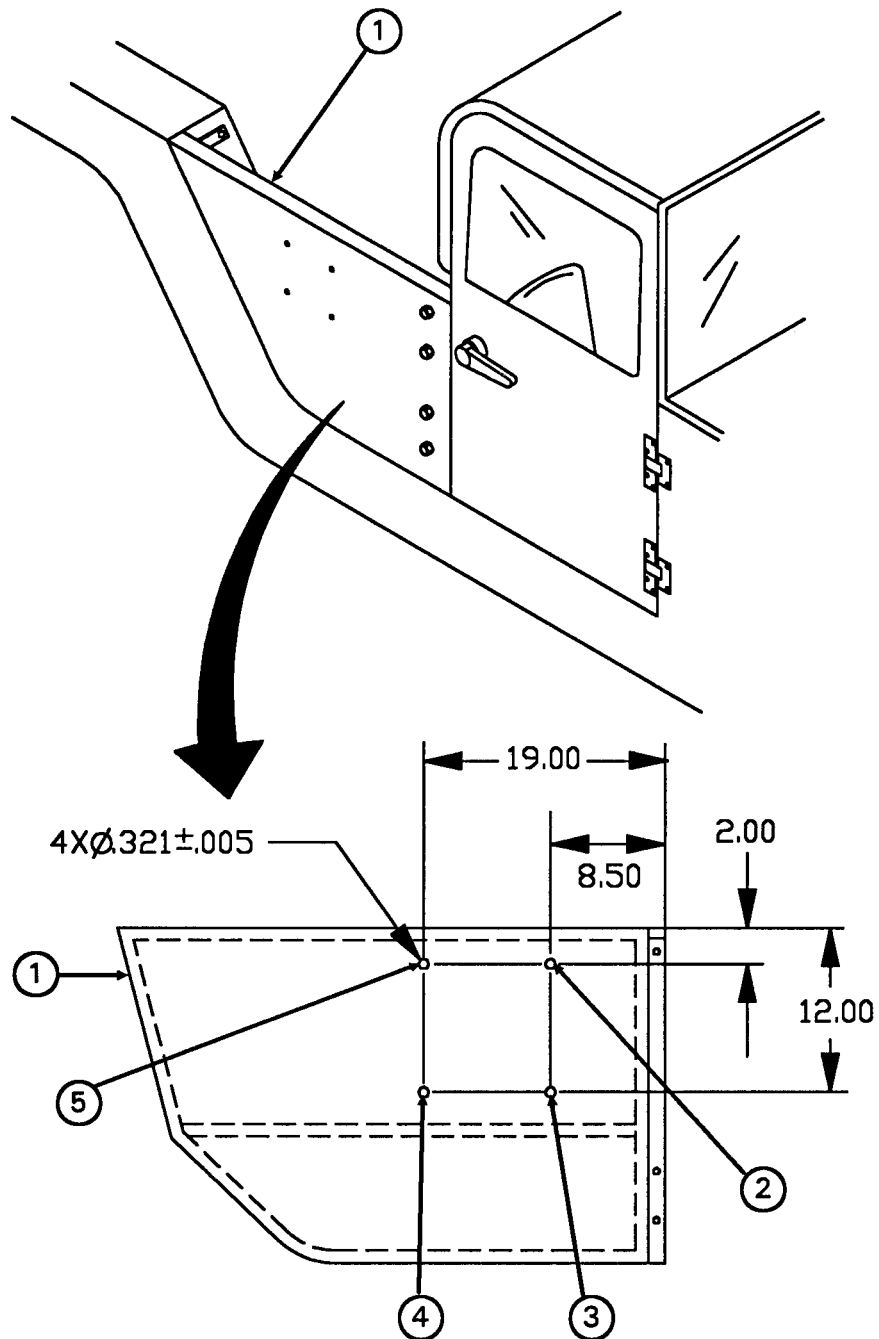
- When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.
- Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand. Failure to do so could result in serious injury.

NOTE

Before drilling in fixed rear door, check location of holes with holes in cover of power interface box.

19. Using 5/16-inch drill bit, drill four holes (2), (3), (4), and (5) in fixed rear door (1).

4-18. EES KIT INSTALLATION (Cont'd)



4-18. EES KIT INSTALLATION (Cont'd)

20. On rear side of enclosure panel (3), determine center of hole (1) by measuring 4 inches (10.16 cm) up from bottom and 1 3/4 inches (4.45 cm) over from left edge.
21. On side of battery box (6) next to enclosure panel (3), determine center of hole (5) by measuring 6 inches (15.24 cm) down from top and 1 7/8 inches (4.76 cm) over from corner.

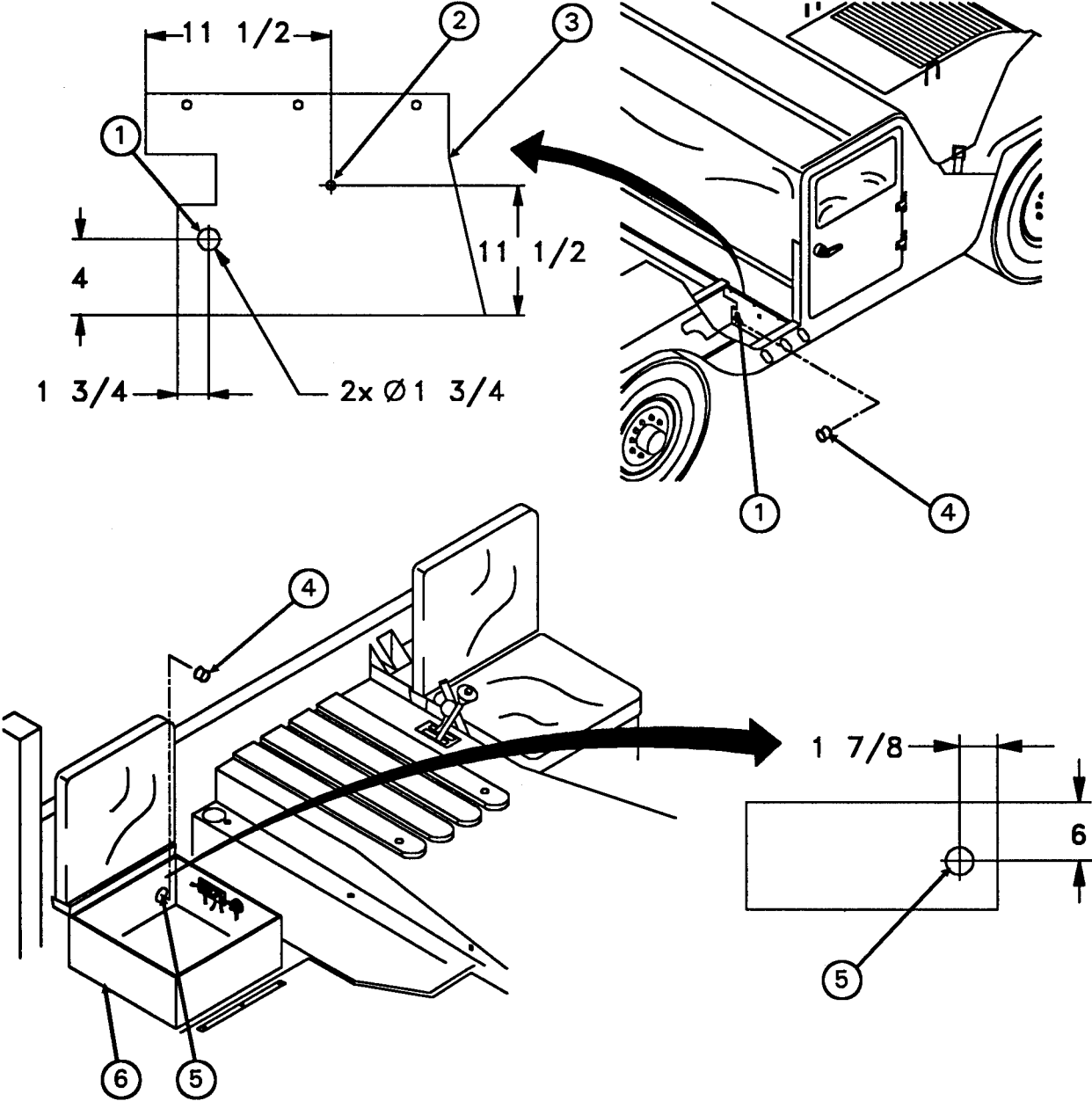
WARNING

- When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.
 - Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand. Failure to do so could result in serious injury.
22. Using 3/4-inch drill bit, drill pilot holes for holes (1) and (5).
 23. Using 1 3/4-inch knockout punch and die, make hole (1) through enclosure panel (3).
 24. Using 1 3/4-inch knockout punch and die, make hole (5) through battery box (6).
 25. Install grommets (4) in holes (1) and (5).
 26. On rear side of enclosure panel (3), determine center of hole (2) by measuring 11 1/2 inches (29.21 cm) up from bottom and 11 1/2 inches (29.21 cm) over from left edge.

WARNING

- When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.
 - Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand. Failure to do so could result in serious injury.
27. Using 5/32-inch drill bit, drill hole (2) through rear side of enclosure panel (3).

4-18. EES KIT INSTALLATION (Cont'd)



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| 4-18. EES KIT INSTALLATION (Cont' d) |
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28. Modify front floorboard (1) as follows:

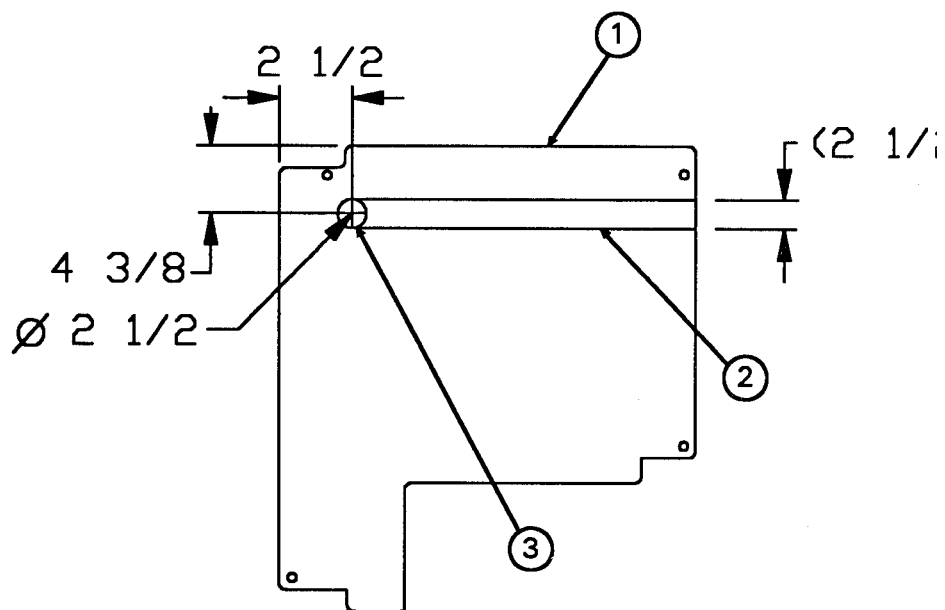
- (a) Turn front floorboard (1) over so underside is face up.
- (b) Determine center of hole (3) by measuring 4 3/8 inches (11.10 cm) down from top edge of front floorboard (3) and 2 1/2 inches (6.35 cm) from left edge of front floorboard (1).

WARNING

When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.

- (c) Using 2 1/2-inch hole saw, drill hole (3) through front floorboard (1).
- (d) Mark 2 1/2 inches (6.35 cm) wide channel (2) from hole (3) to right edge of front floorboard (1).
- (c) Chisel 1/8-inch (0.30 cm) deep channel (2) from hole (3) to right edge of front floorboard (1).

4-18. EES KIT INSTALLATION (Cont'd)



4-18. EES KIT INSTALLATION (Cont'd)

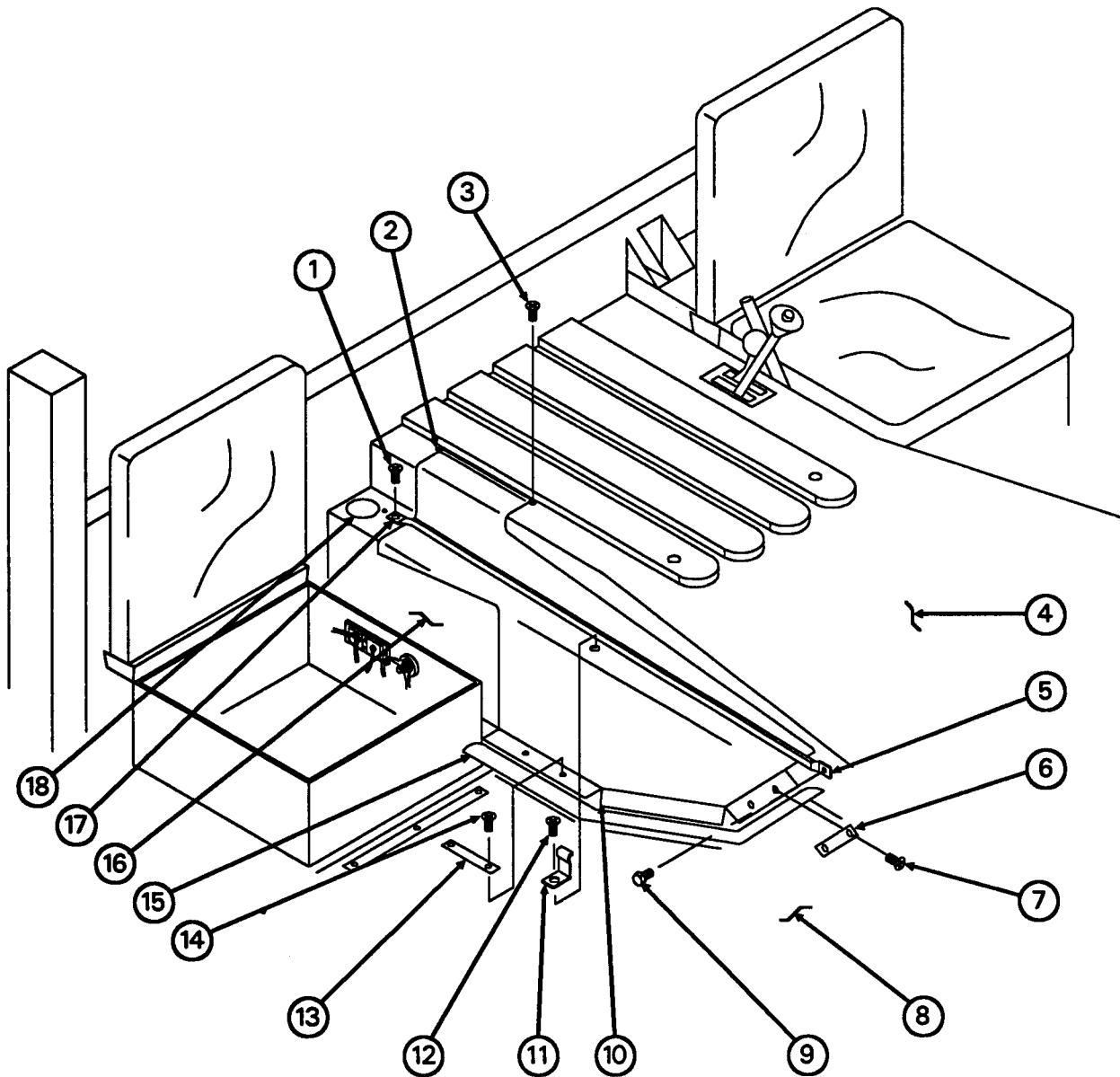
b. Tunnel Interior Side Insulation Blanket and Retainer Installation.

1. Using new insulation retainer (5) as template, determine location of hole (17) to be drilled near 2 5/8-inch hole (18) in transmission tunnel (16).

WARNING

- When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.
 - Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand. Failure to do so could result in serious injury.
2. Using # 21 drill bit, drill hole (17) in transmission tunnel (16).
 3. Position new insulation blanket (10) in place against cargo floor (4), transmission tunnel (16), and floor (8).
 4. Lift up right front cowl insulation (15) and secure new insulation blanket (10) to floor (8) with two screws (14) and one retainer (13).
 5. Secure new insulation blanket (10) to floor (8) with two screws (7), and one retainer (6).
 6. Install new insulation retainer (5) to transmission tunnel (16) and secure with one screw (1) and and one bolt (9).
 7. Secure one retaining clip (11) and one screw (12) to transmission tunnel (16) to hold new insulation retainer (5). against insulation blanket (10).
 8. Position retaining rod (2) into sleeve of insulation blanket (10).
 9. Secure retaining rod (2) to cargo floor (4) with two screws (3).

4-18. EES KIT INSTALLATION (Cont 'd)



4-18. EES KIT INSTALLATION (Cont'd)

c. Hood Removal

NOTE

Refer to TM 9-2320-280-20 for removal of hood.

d. Right Splash Shield Removal

NOTE

Refer to TM 9-2320-280-20 for removal of right splash shield.

e. Hood Prop Rod and Bracket Removal

NOTE

Refer to TM 9-2320-280-20 for removal of hood prop rod and bracket.

f. Left Splash Shield Removal

NOTE

Refer to TM 9-2320-280-20 for removal of left splash shield.

g. Engine and Transmission Oil Cooler Assembly Removal

NOTE

Refer to TM 9-2320-280-20 for removal of engine and transmission oil cooler assembly.

4-18. EES KIT INSTALLATION (Cont'd)

h. Drain Cooling System

NOTE

Refer to TM 9-2320-280-20 for draining cooling system.

i. Radiator and Fan Shroud Removal

NOTE

Refer to TM 9-2320-280-20 for removal of radiator and fan shroud.

j. Air Horn to Air Cleaner Elbow Removal

NOTE

Refer to TM 9-2320-280-20 for removal of air horn to air cleaner elbow.

k. Surge Tank Removal

NOTE

Refer to TM 9-2320-280-20 for removal of surge tank.

l. Surge Tank to Lower Radiator Hose Removal

NOTE

Refer to TM 9-2320-280-20 for removal of surge tank to lower radiator hose.

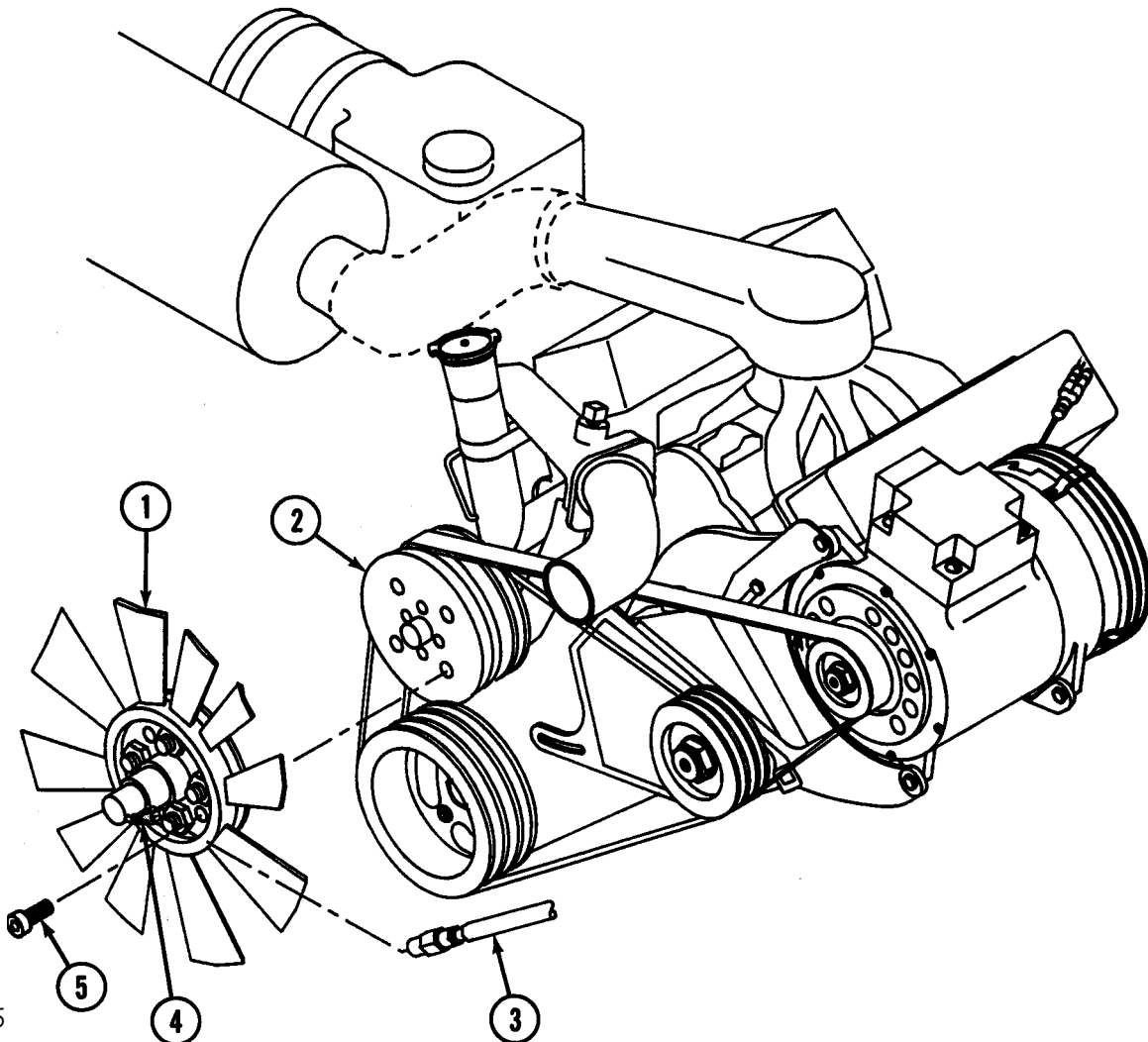
4-18. EES KIT INSTALLATION (Cont'd)

m. Fan Drive Assembly Removal

NOTE

It may be necessary to apply compressed air to clutch adapter. This disengages fan drive clutch to allow access to socket head screws.

1. Disconnect fan drive hose (3) from fan drive assembly (1).
2. Using compressed air adapter assembly (appendix E), apply 30 psi compressed air to fitting (4) on fan drive assembly (1) to disengage fan drive clutch,
3. Align fan drive assembly (1) to allow access to socket head screws (5).
4. Remove four socket head screws (5) securing fan drive assembly (1) to water pump pulley (2) and remove fan drive assembly (1).



4-18. EES KIT INSTALLATION (cont'd)

n. 60 Amp Alternator Drive Belt Set Removal

NOTE

Refer to TM 9-2320-280-20 for removing 60 amp alternator drive belt set.

o. Power Steering Drive Belt Set Removal

NOTE

Refer to TM 9-2320-280-20 for removing power steering drive belt set.

p. Water Pump Pulley Removal

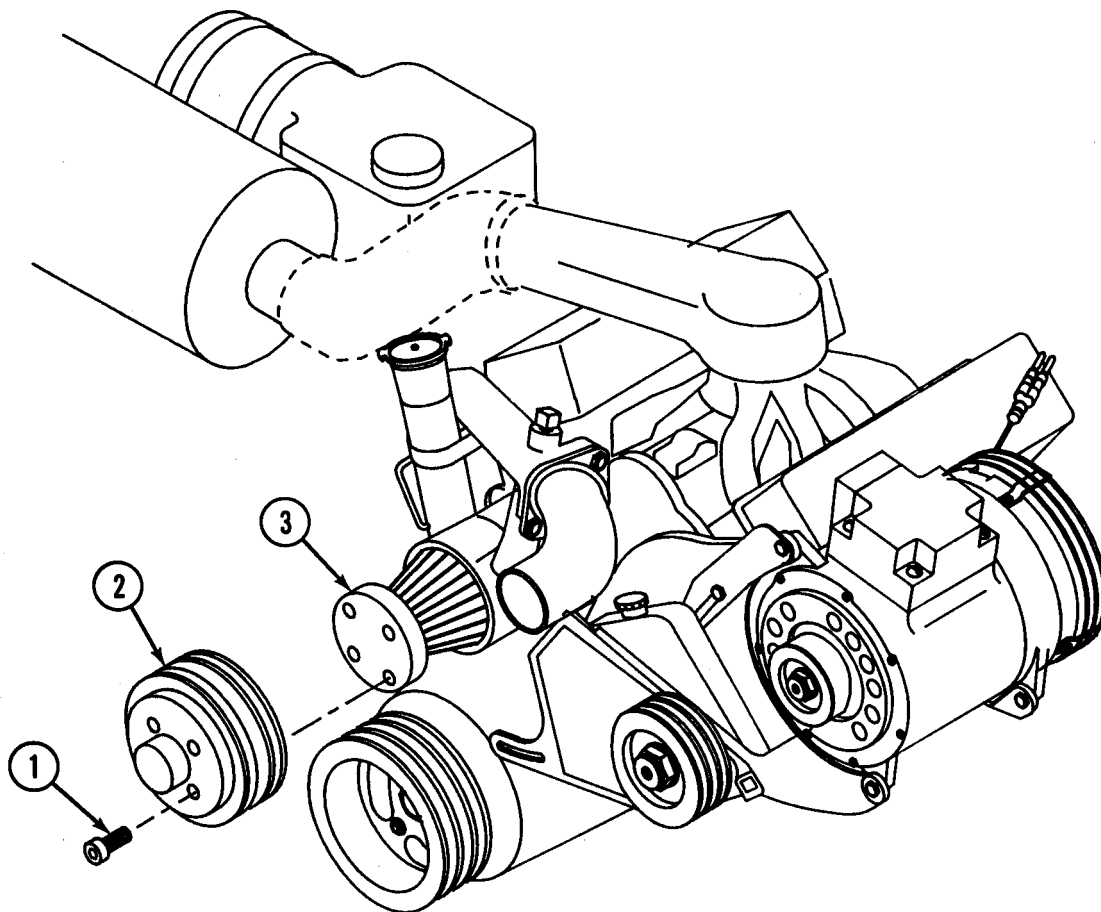
NOTE

Refer to TM 9-2320-280-20 for removing water pump pulley.

4-18. EES KIT INSTALLATION (Cont'd)

q. Water Pump Pulley Installation

1. Clean threads of four sockethead screws (1) retained from removal of water pump pulley (TM 9-2320-280-20).
2. Install water pump pulley (2) on water pump (3).
3. Apply sealing compound to four sockethead screws (1).
4. Secure water pump pulley (2) to water pump (3) with four sockethead screws (1).
5. Using 6mm hex socket wrench attachment, tighten sockethead screws (1) to 180-240 lb-in. (20-27 N·m).



4-18. EES KIT INSTALLATION (Cont'd)

r. 60 Amp Alternator Removal

NOTE

Refer to TM 9-2320-280-20 for removing 60 amp alternator.

s. 60 Amp Alternator Mounting Brackets Removal

NOTE

Refer to TM 9-2320-280-20 for removing 60 amp alternator mounting brackets.

t. 200 Amp Alternator Mounting Brackets Installation

NOTE

Refer to TM 9-2320-280-20 for installing 200 amp alternator mounting brackets.

u. 200 Amp Alternator Pulley Installation

NOTE

Refer to TM 9-2320-280-20 for installing 200 amp alternator pulley.

v. 200 Amp Alternator Installation

NOTE

Refer to TM 9-2320-280-20 for installing 200 amp alternator.

4-18. EES KIT INSTALLATION (Cont'd)

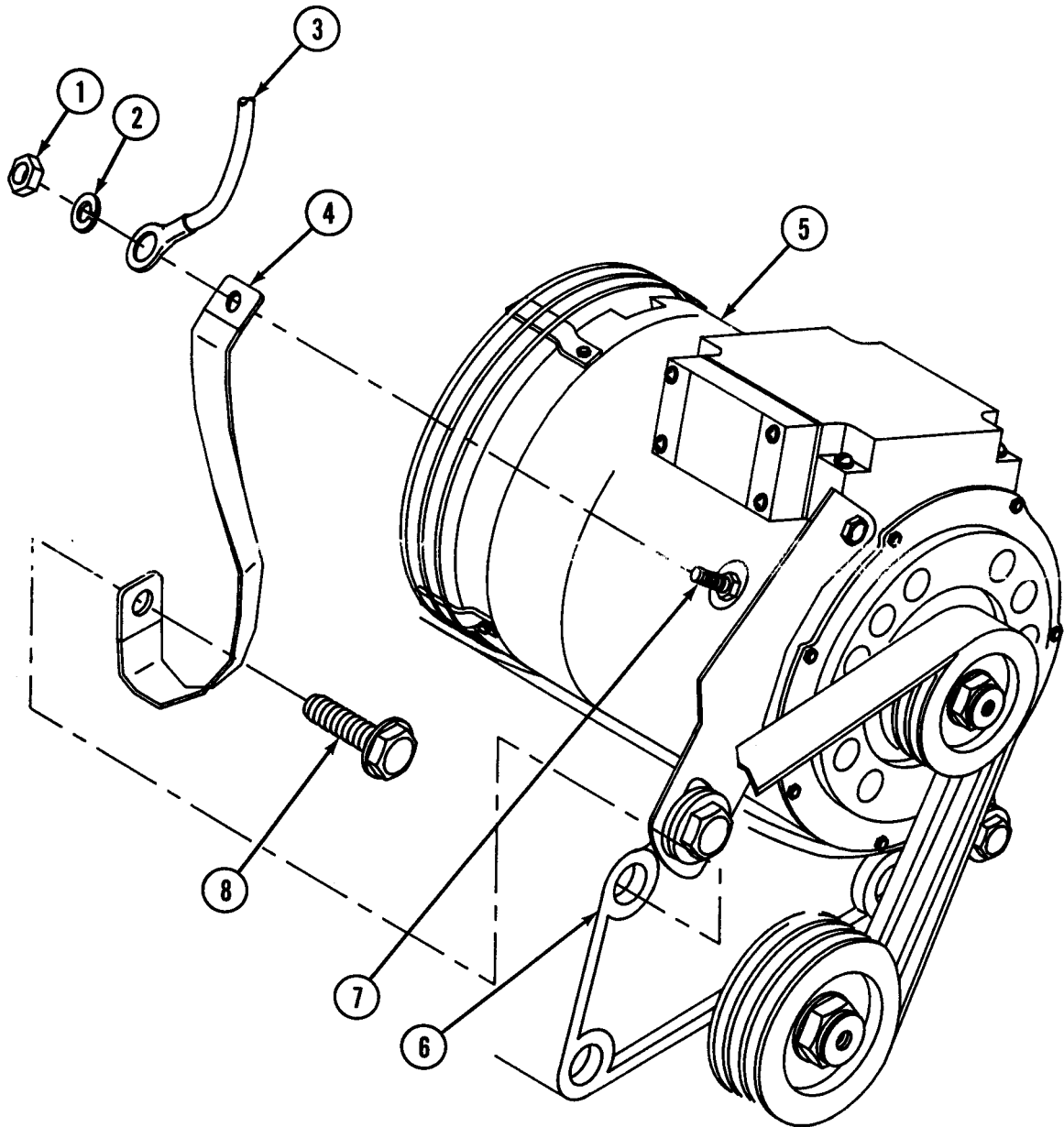
w. 200 Amp Alternator Ground Strap Installation

NOTE

Ensure terminal is clean before connection is made.

1. Apply copper shield sparingly to bolt (8) surface of ground strap (4),
2. Insert bolt (8) through hole in ground strap (4).
3. Install bolt (8) and ground strap (4) to upper hole on mounting bracket (6). Tighten to 48 lb-ft (65 N·m).
4. Remove nut (1), lockwasher (2), and lead 3B (3) from ground stud (7) on 200 amp alternator (5). Retain lockwasher (2) for installation.
5. Install ground strap (4) and lead 3B (3) to ground stud (7) and secure with lockwasher (2) and nut (1). Tighten nut (1) to 96-144 lb-in. (11-16 N·m).

4-18. EES KIT INSTALLATION (Cont'd)

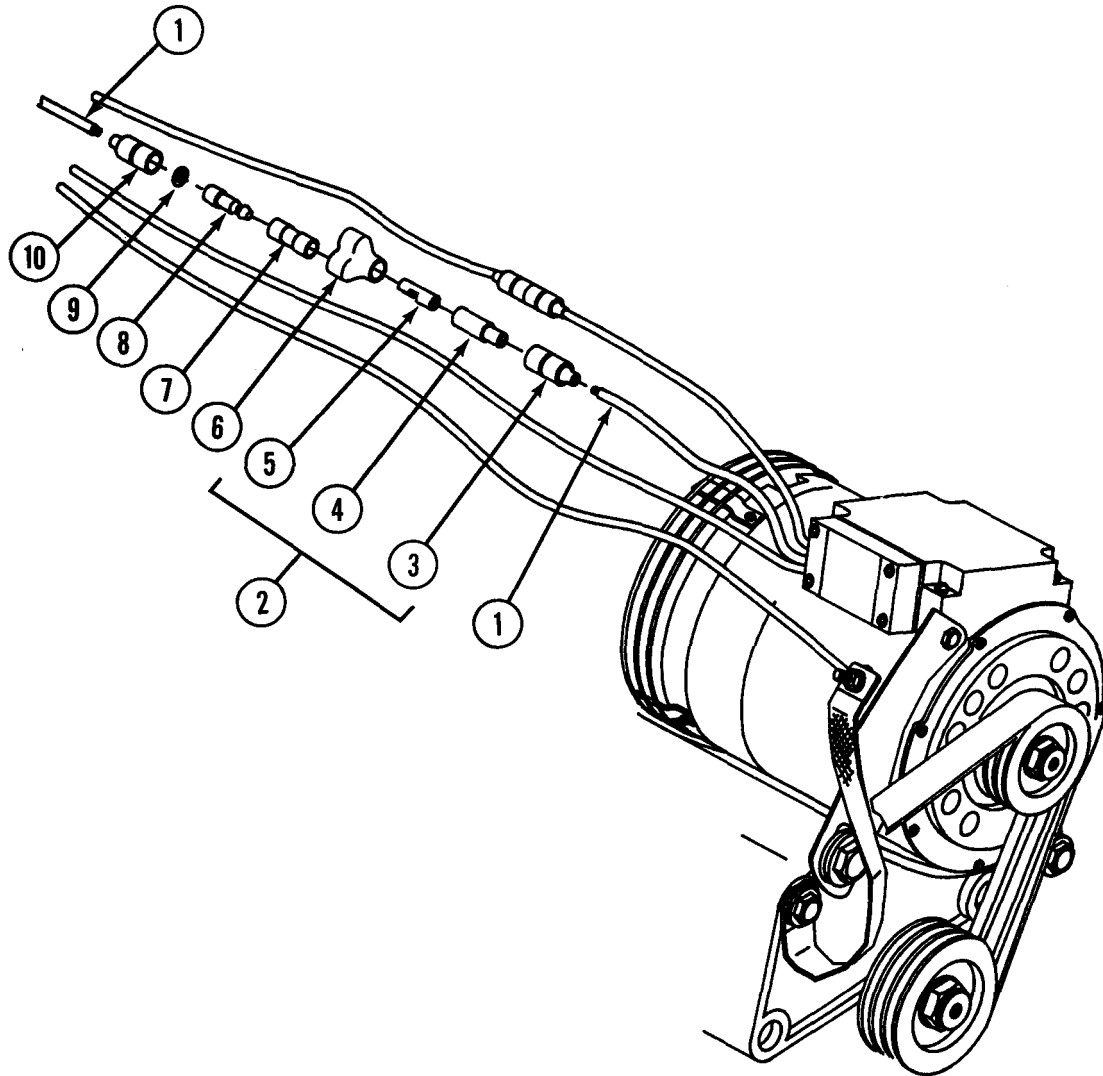


4-18. EES KIT INSTALLATION (Cont'd)

x. 200 Amp Alternator Connectors Installation

1. Cut wire no. 2A (1) halfway between regulator and wire harness jacket.
2. Slide rubber shell (3) and plastic sleeve (4) from connector (2) onto wire no. 2A (1) (regulator side).
3. Strip insulation on wire no. 2A (1) to equal depth of terminal well on connector terminal (5).
4. Insert end of wire no. 2A (1) into terminal well and crimp.
5. Solder crimped joint between connector terminal (5) and wire no. 2A (1).
6. Slide rubber shell (3) and plastic sleeve (4) onto connector terminal (5).
7. Plug connector (2) into 3-way connector (6).
8. Slide rubber shell (10) onto wire no. 2A (1) (wire harness side).
9. Strip insulation on wire no. 2A (1) to equal depth of terminal well on connector terminal (8).
10. Insert end of wire no. 2A (1) into terminal well.
11. Solder joint between connector terminal (8) and wire no. 2A (1).
12. Place slotted washer (9) over soldered junction on connector terminal (8).
13. Slide rubber shell (10) over slotted washer (9) on connector terminal (8).
14. Plug wire no. 2A (1) into adapter (7) and adapter (7) into 3-way connector (6).

4-18. EES KIT INSTALLATION (Cont'd)



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| 4-18. EES KIT INSTALLATION (Cont'd) |
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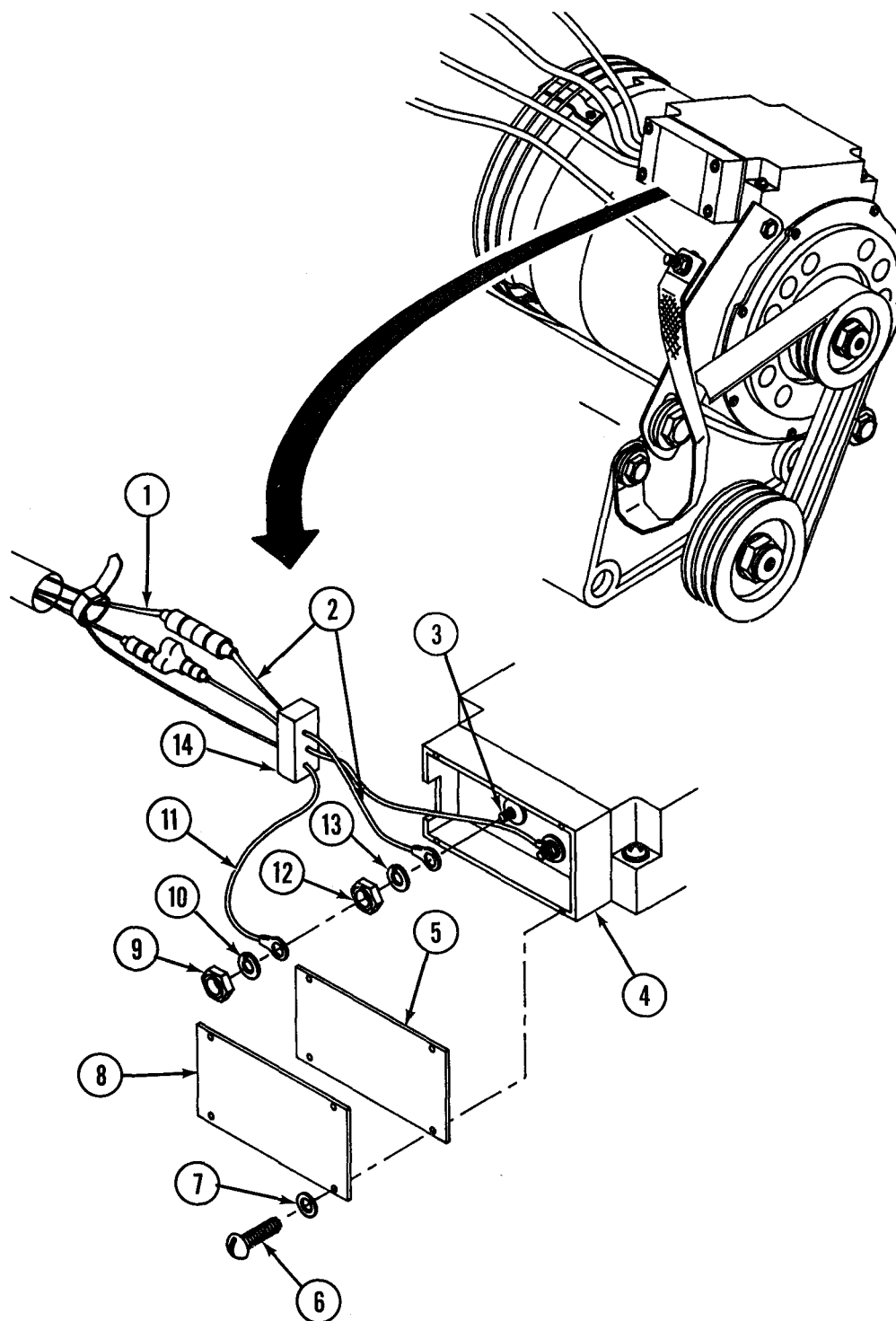
15. Remove four screws (6) and lockwashers (7) that secures cover (8) and gasket (5) to regulator (4). Remove cover (8) and gasket (5).

NOTE

Tag leads for installation.

16. Remove nut (9) and lockwasher (10) that secures wire no. 5A (11) to stud (3) and disconnect wire no. 5A (11).
17. Remove rubber wedge (14) from opening in regulator (4).
18. Remove nut (12) and lockwasher (13) that secures old wire no. 568 (2) to stud (3) and disconnect old wire no. 568 (2).
19. Disconnect old wire no. 568 (2) from wire no. 568A (1) and remove old wire no. 568 (2).
20. Connect new wire no. 568 (2) to wire no. 568A (1) and install into rubber wedge (14).
21. Install new wire no. 568 (2) to stud (3) and secure with lockwasher (13) and nut (12).
22. Install wire no. 5A (11) to stud (3) and secure with lockwasher (10) and nut (9).
23. Install rubber wedge (14) in opening in regulator (4).
24. Install gasket (5) and cover (8) to regulator (4) and secure with lockwashers (7) and four screws (6).

4-18. EES KIT INSTALLATION (Cont'd)



4-18. EES KIT INSTALLATION (Cont'd)

y. Air Horn Support Bracket Removal

NOTE

Refer to TM 9-2320-280-20 for removal of air horn support bracket.

z. Compressor Mounting Bracket Installation

NOTE

Refer to TM 9-2320-280-34 for installation of compressor mounting bracket.

aa. Compressor Installation

NOTE

Refer to TM 9-2320-280-34 for installation of compressor.

bb. 200 Amp Alternator Cable Installation

NOTE

Refer to TM 9-2320-280-20 for installation of 200 amp alternator cable.

cc. Air Conditioning Service Valves Installation

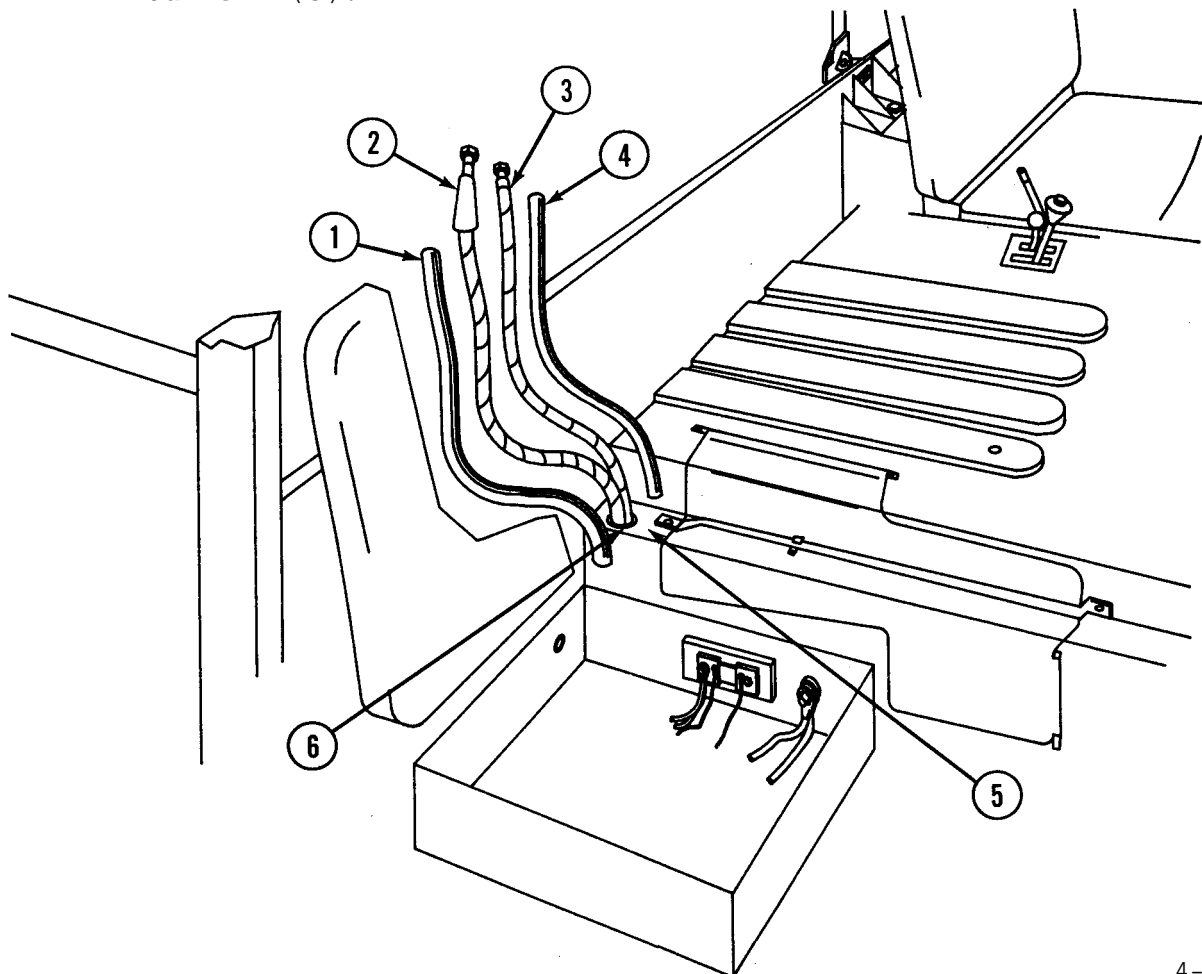
NOTE

Refer to TM 9-2320-280-34 for installation of air conditioning service valves.

4-18. EES KIT INSTALLATION (Cont'd)

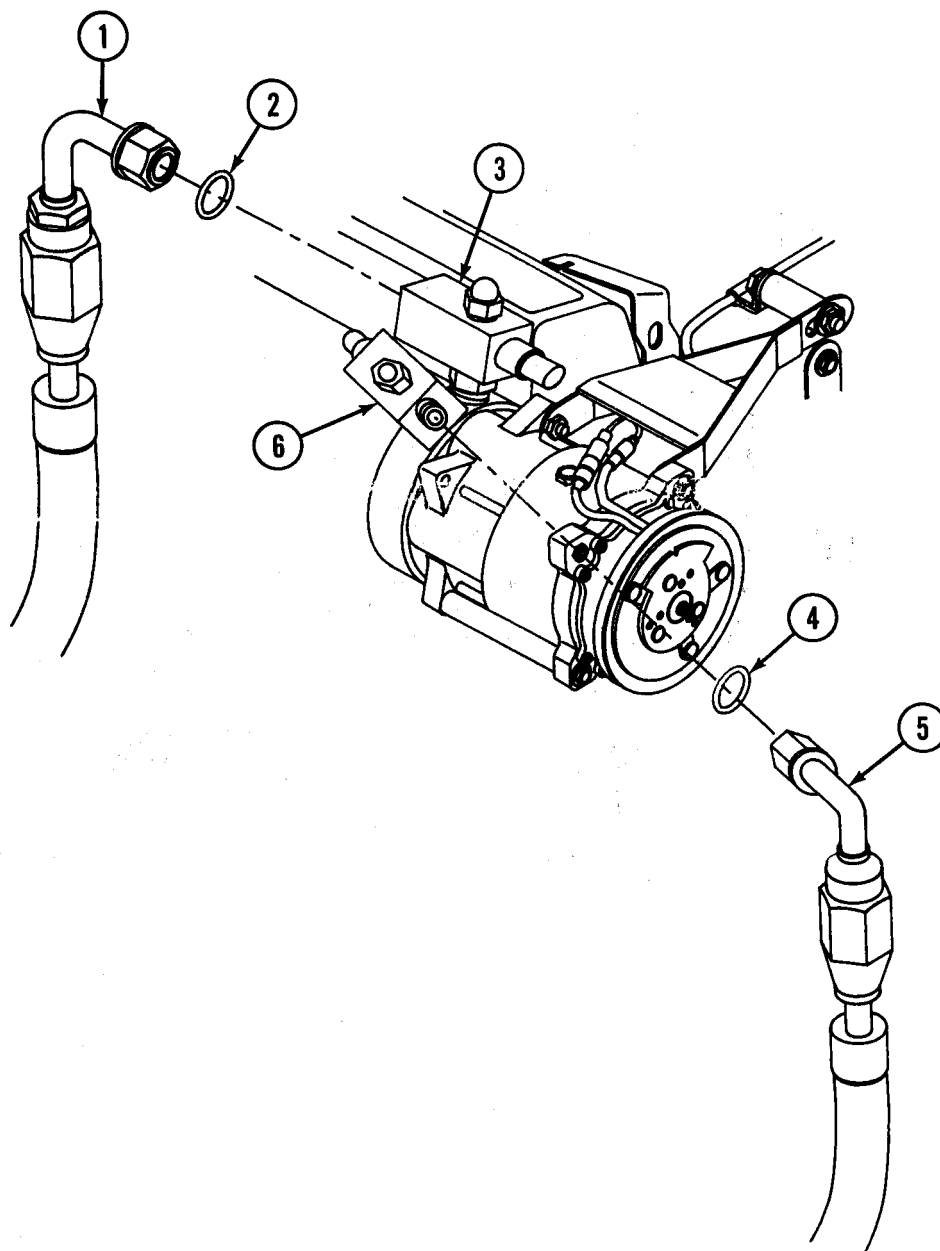
dd. Freon Lines Installation

1. Cut insulation (1) from suction hose (2) as follows:
 - (a) Measure 11 in. (27.94 cm) from end of suction hose (2) and make circular cut around insulation (1).
 - (b) Cut insulation 22 in. (55.88 cm) lengthwise.
 - (c) Make another circular cut around insulation (1) at 33 in. (83.82 cm).
2. Remove insulation (1) from suction hose (2).
3. Cut insulation (4) from discharge hose (3) as follows:
 - (a) Measure 33 in. (83.82 cm) from end of discharge hose (3) and make circular cut around insulation (4).
 - (b) From end of discharge hose (3), cut insulation (4) lengthwise until circular cut is reached.
4. Remove insulation (4) from discharge hose (3).
5. Install suction hose (2) through hole (6) in transmission tunnel (5).
6. Install discharge hose (3) through hole (6) in transmission tunnel (5).



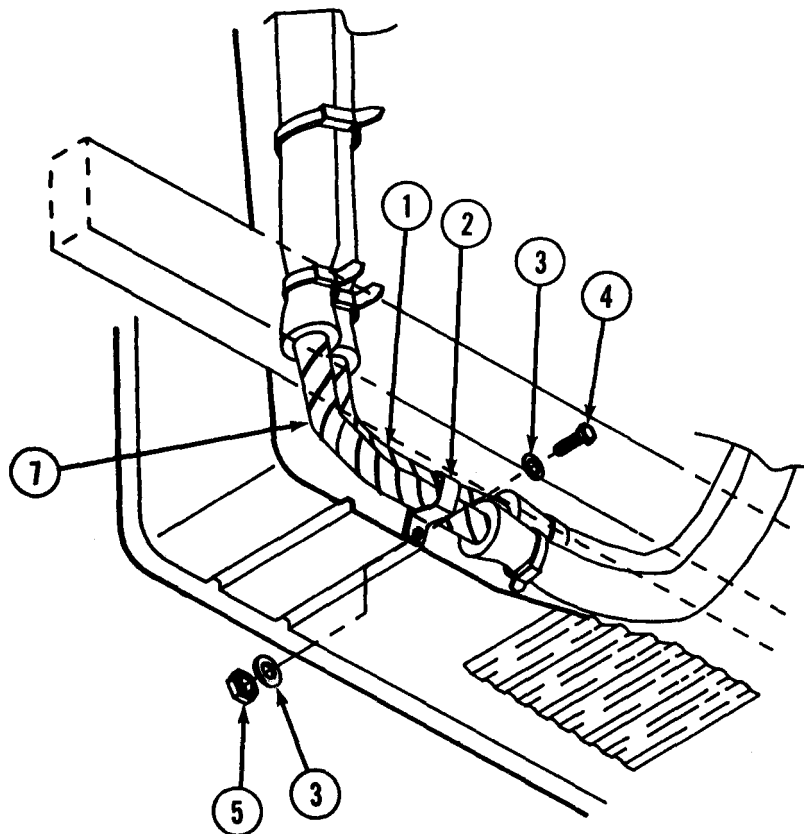
4-18. EES KIT INSTALLATION (Cont'd)

7. Lubricate two "O" rings (2) and (4) with lubricating oil.
8. Install larger "O" ring (2) into suction hose (1) and smaller "O" ring (4) into discharge hose (5).
9. Connect suction hose (1) to compressor service valve (3) and discharge hose (5) to service valve (6).



4-18. EES KIT INSTALLATION (Cont'd)

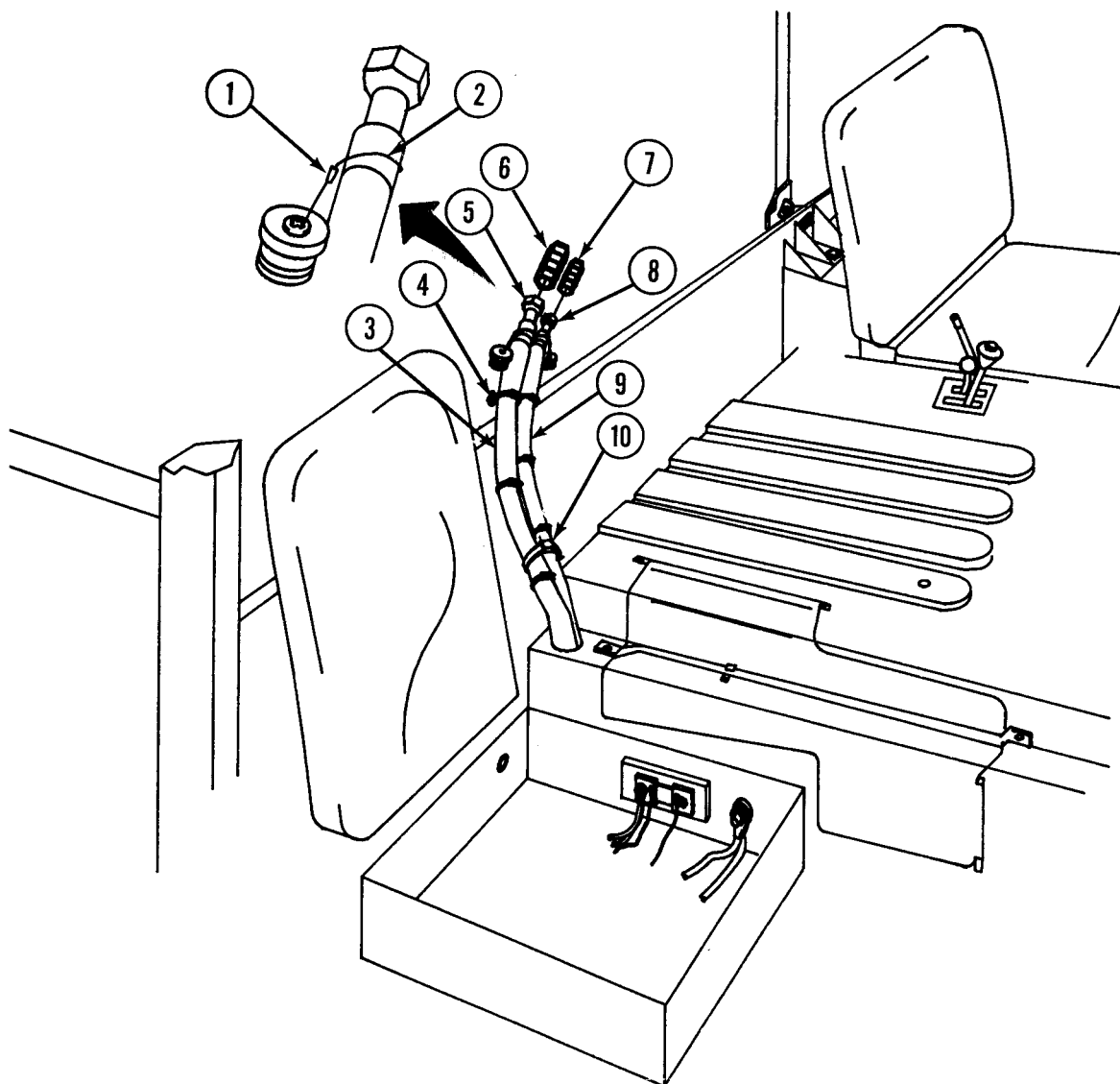
10. Place clamp (2) onto suction hose (7) and discharge hose (1).
11. Install clamp (2), suction hose (7), and discharge hose (1) to underside of body and secure with capscrew (4), two washers (3), and self-locking nut (5)



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| 4-18. EES KIT INSTALLATION (Cont 'd) |
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12. Place insulation (3) and (9) around upper section of suction hose (5) and discharge hose (8). Secure insulation to hoses with tie-straps (4).
13. Install lanyard (2) from large dust cap through swaging sleeve (1). Loop lanyard (2) around suction hose (5) and back through swaging sleeve (1). Crimp swaging sleeve (1).
14. Install lanyard (2) from small dust cap through swaging sleeve (1). Loop lanyard (2) around discharge hose (8) and back through swaging sleeve (2). Crimp swaging sleeve (2).
15. Connect suction hose (5) and discharge hose (8) to quick disconnects (6) and (7).
16. Secure suction hose (5) and discharge hose (8) together with tie-straps (10).

4-18. EES KIT INSTALLATION (Cont'd)



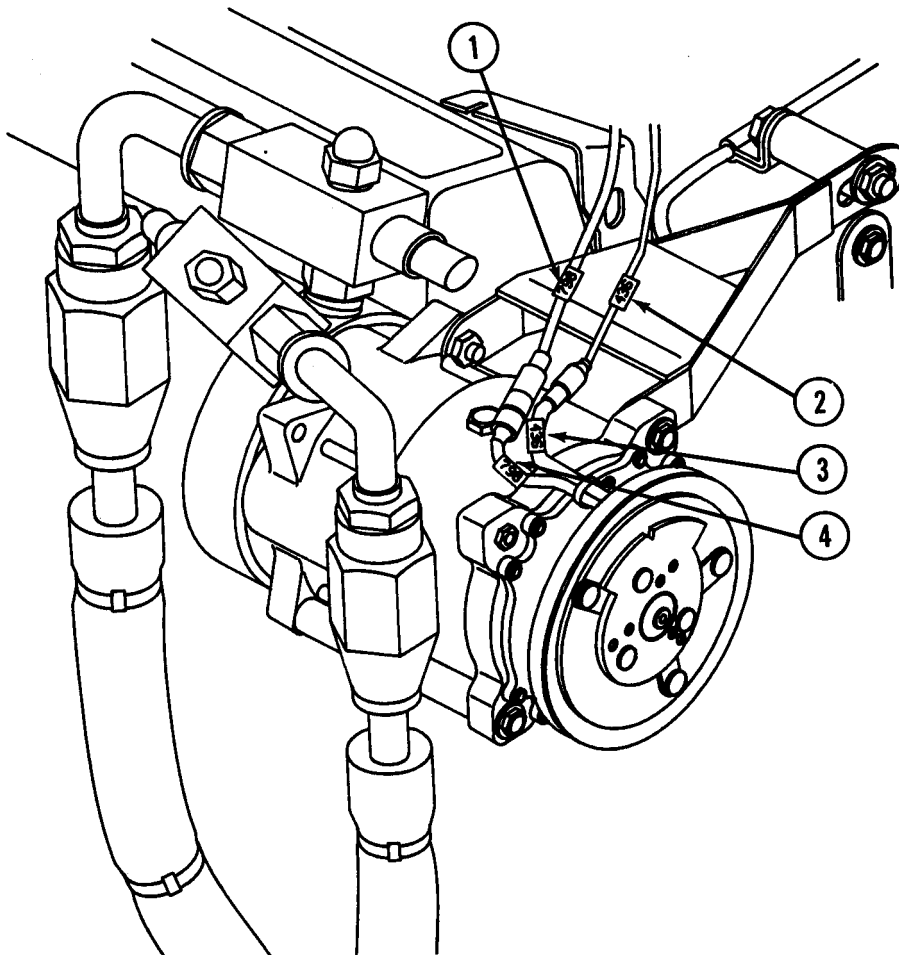
4-18. EES KIT INSTALLATION (Cont'd)

ee. Cable Assembly W66 Installation

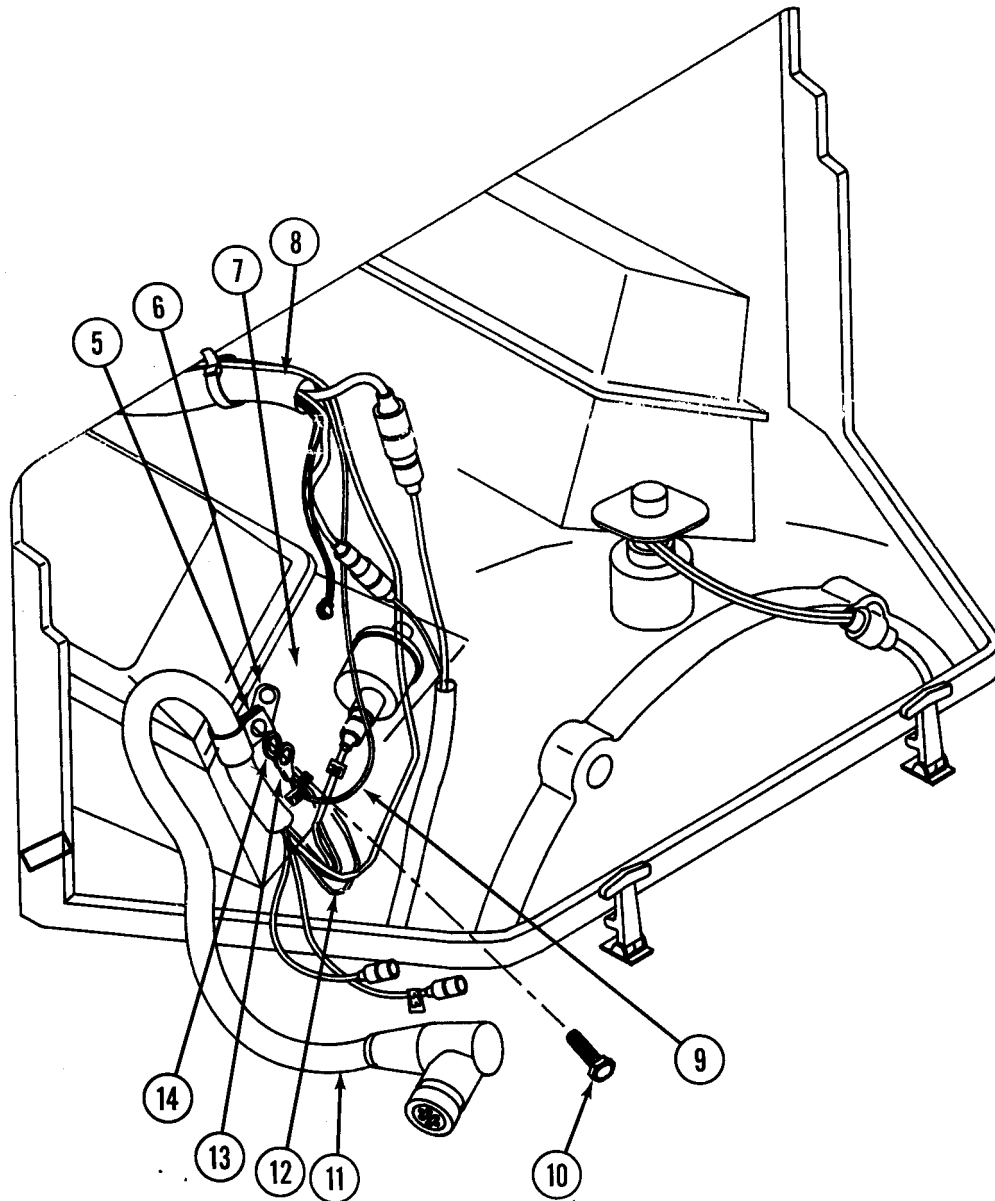
NOTE

Use figure 3-2, Engine Electrical Interface, when installing cable assembly W66.

1. Install loop clamp (5) on cable assembly W66 (11).
2. Apply conductive antiseize compound to terminal lug (13) on wire no. 798 (9) and terminal lug (14) on wire no. 58 (12).
3. Install safety tab (6), loop clamp (5), wire no. 798 (9), and wire no. 58 (12) to engine block (7) and secure with screw (10).
4. Route wires no. 798 (9) and no. 436 (2) along engine wiring harness (8) and across engine to compressor.
5. Connect wire no. 798 (1) into wire no. 798 (4) (on compressor).
6. Connect wire no. 436 (2) into wire no. 436 (3) (on compressor).



4-18. EES KIT INSTALLATION (Cont'd)



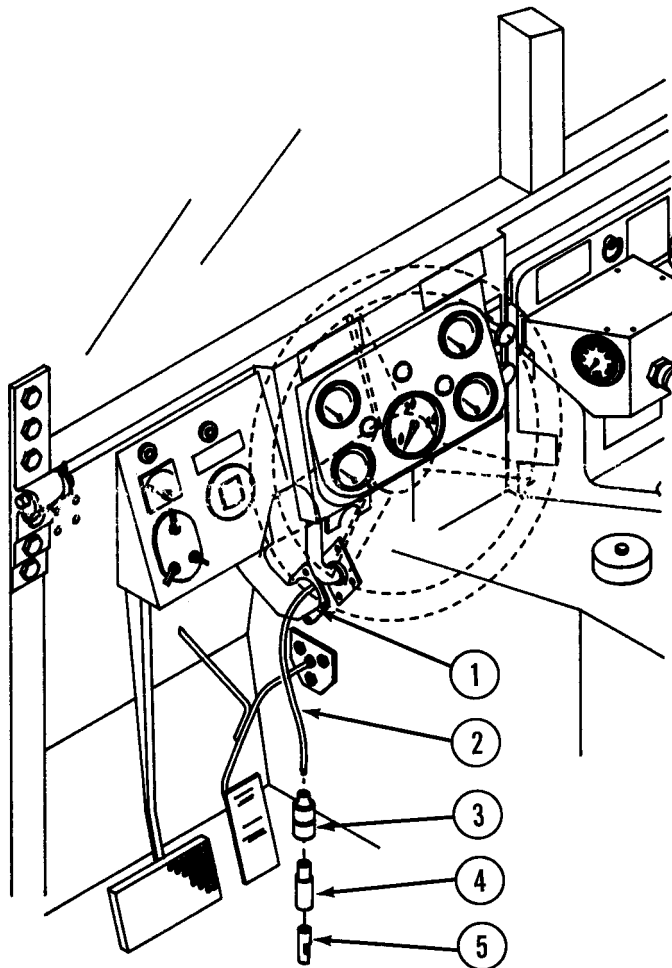
4-18. EES KIT INSTALLATION (Cont'd)

7. From engine side, route wire no. 28 (2) through cowl grommet (1) behind 200 amp alternator.
8. Slide rubber shell (3) and plastic sleeve (4) from connector onto wire no. 28 (2).
9. Strip insulation 1/4-inch (0.64 cm) from end of wire no. 28 (2).
10. Install connector terminal (5) onto wire no. 28 (2) and crimp.

WARNING

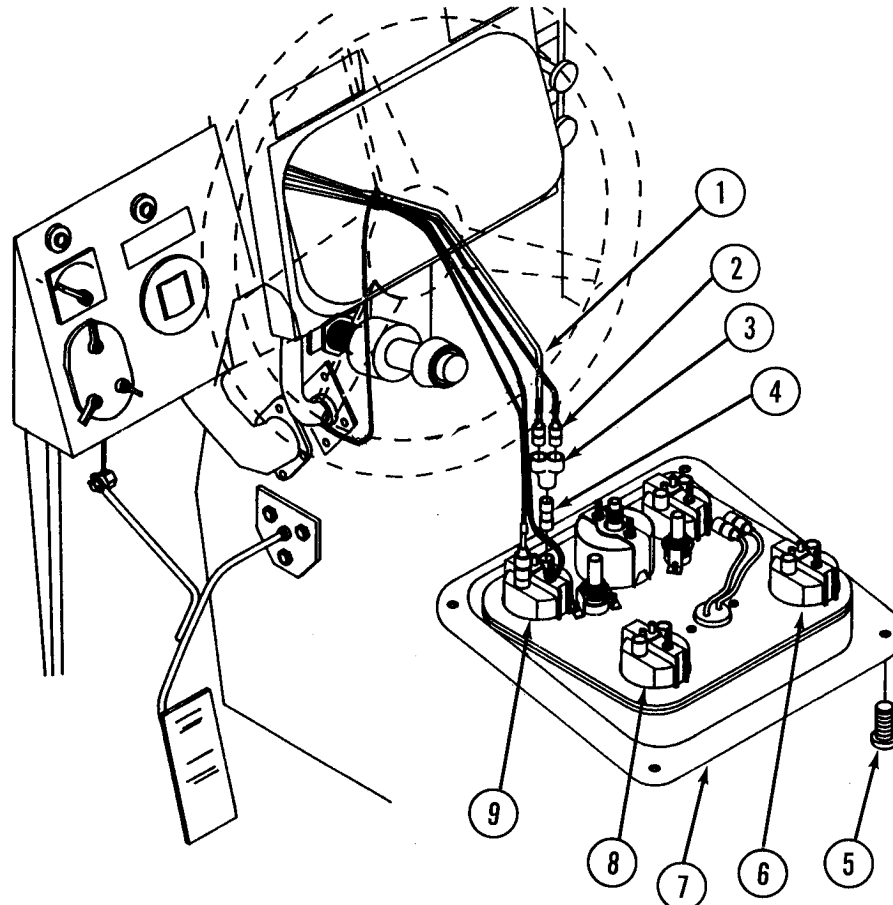
To prevent eye injury, wear protective eye wear while performing any soldering.

11. Solder crimped joint between connector terminal (5) and wire no. 28 (2).
12. Slide plastic sleeve (4) and rubber shell (3) onto connector terminal (5).



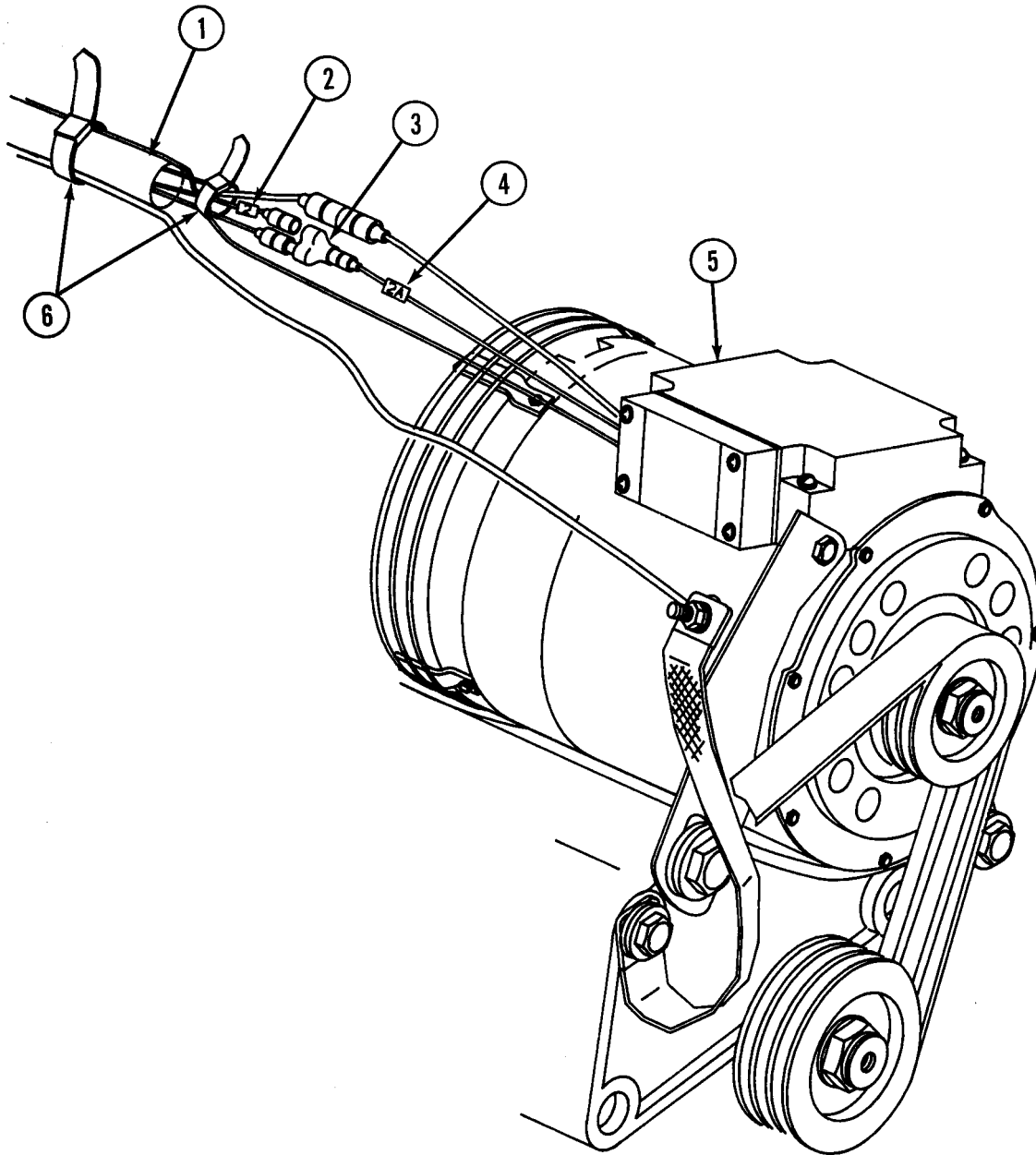
4-18. EES KIT INSTALLATION (Cont'd)

13. Remove four screws (5) and pull out instrument cluster (7).
14. Unplug wire no. 28A (1) from fuel gage (9).
 - a. Make sure engine oil pressure gage (8) is PN C5136382 (see figure 24 in appendix D of this manual) or status warning system will not operate properly. If engine oil pressure gage is not correct PN, replace IAW TM 9-2320-280-20.
 - b. Make sure coolant temperature gage (6) is PN C5136383 (see figure 24 in appendix D of this manual) or status warning system will not operate properly. If coolant temperature gage is not correct PN, replace IAW TM 9-2320-280-20.
 - c. Make sure fuel gage (9) is PN C5136384 (see figure 24 in appendix D of this manual) or status warning system will not operate properly. If fuel gage is not correct PN, replace IAW TM 9-2320-280-20.
15. Plug wire no. 28A (1) and wire no. 28 (2) into 3-way connector (3).
16. Plug adapter (4) into 3-way connector (3).
17. Plug adapter (4) into fuel gage (9).
18. Install instrument cluster (7) and secure with four screws (5).



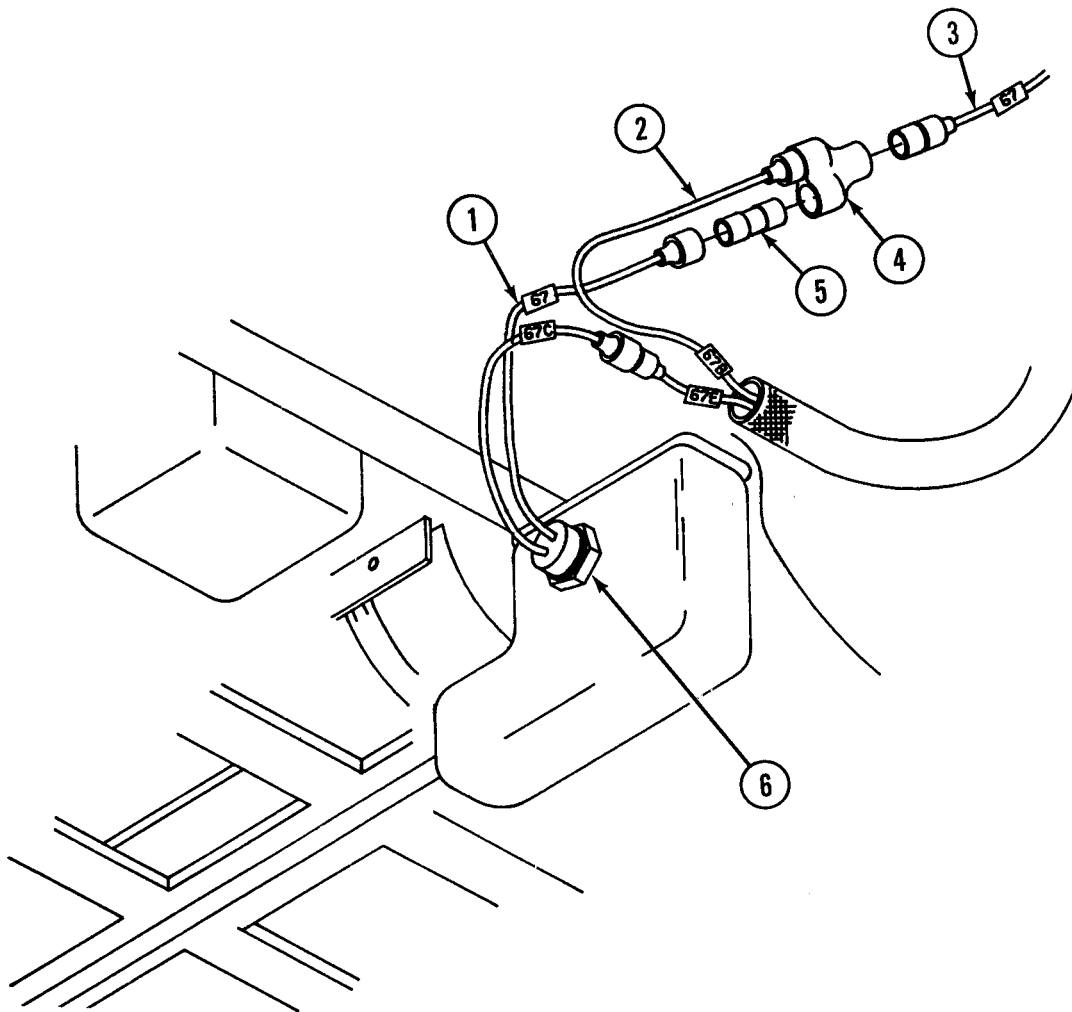
4-18. EES KIT INSTALLATION (Cont'd)

19. Route wire no. 2 (2) along engine wiring harness (1) on top of engine to 200 amp alternator (5).
20. Plug wire no. 2 (2) into 3-way connector (3) on wire no. 2A (4) leading from 200 amp alternator (5).
21. Secure wires using tie-straps (6).



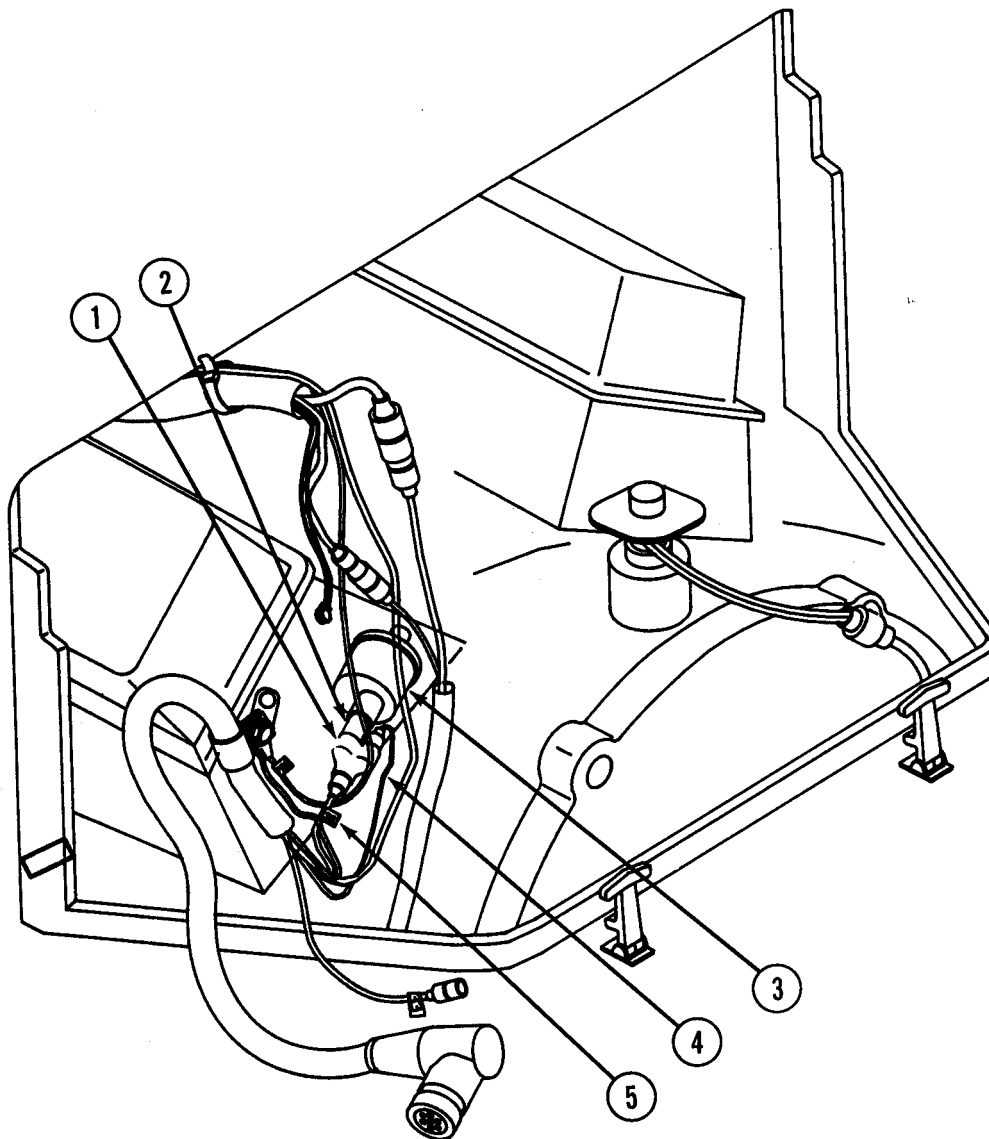
4-18. EES KIT INSTALLATION (Cont'd)

22. From under truck, unplug wire no. 67B (2) from wire no. 67 (1) on parking brake switch (6).
23. Plug wire no. 67 (1) into adapter (5) and adapter (5) into 3-way connector (4).
24. Plug wire no. 67 (3) and wire no. 67B (2) into 3-way connector (4).



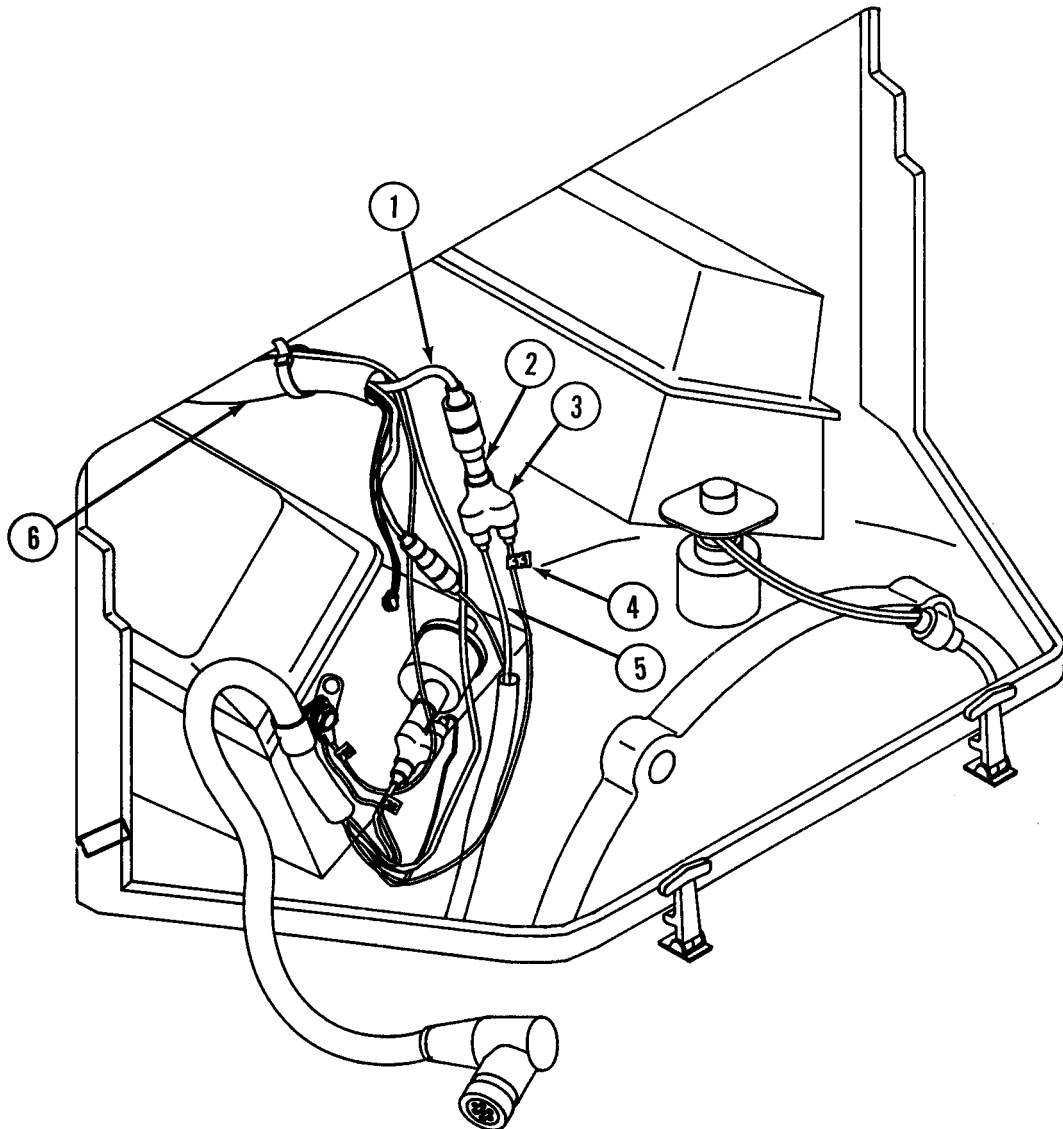
4-18. EES KIT INSTALLATION (Cont'd)

25. Unplug wire no. 36A (4) from oil pressure sending unit (3).
26. Plug wire no. 36A (4) and wire no. 36 (5) into 3-way connector (1).
27. Plug 3-way connector (1) into adapter (2) and adapter (2) into oil pressure sending unit (3).



4-18. EES KIT INSTALLATION (Cont'd)

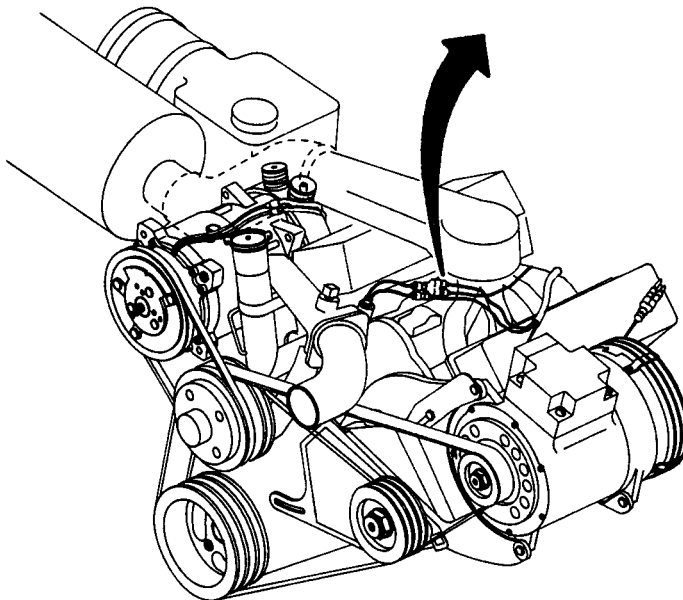
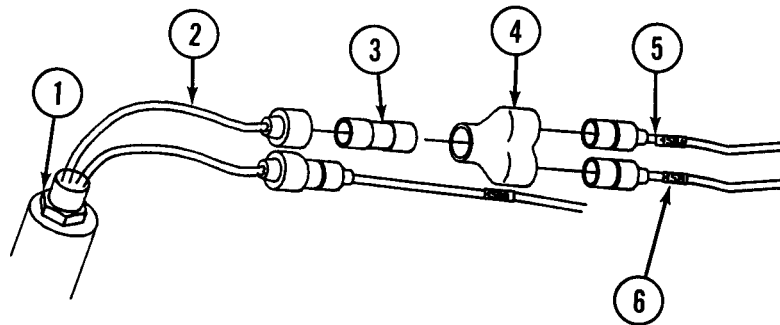
28. From engine wiring harness (6), unplug wire no. 33A (5) from wire no. 33B (1) (leading from engine temperature sending unit).
29. Plug wire no. 33A (5) and wire no. 33 (4) into 3-way connector (3).
30. Plug 3-way connector (3) into adapter (2) and adapter (2) into wire no. 33B (1).



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| 4-18. EES KIT INSTALLATION (Cont'd) |
|-------------------------------------|

31. Unplug wire no. 458A (6) from wire no. 458 (2) from fan clutch temperature switch (1).
32. Plug wire no. 458A (6) and wire no. 458 (5) into 3-way connector (4).
33. Plug 3-way connector (4) into adapter (3) and adapter (3) into wire no. 458 (2).
34. Secure cable assembly W66 with tie-straps as required.

4-18. EES KIT INSTALLATION (Cont'd)

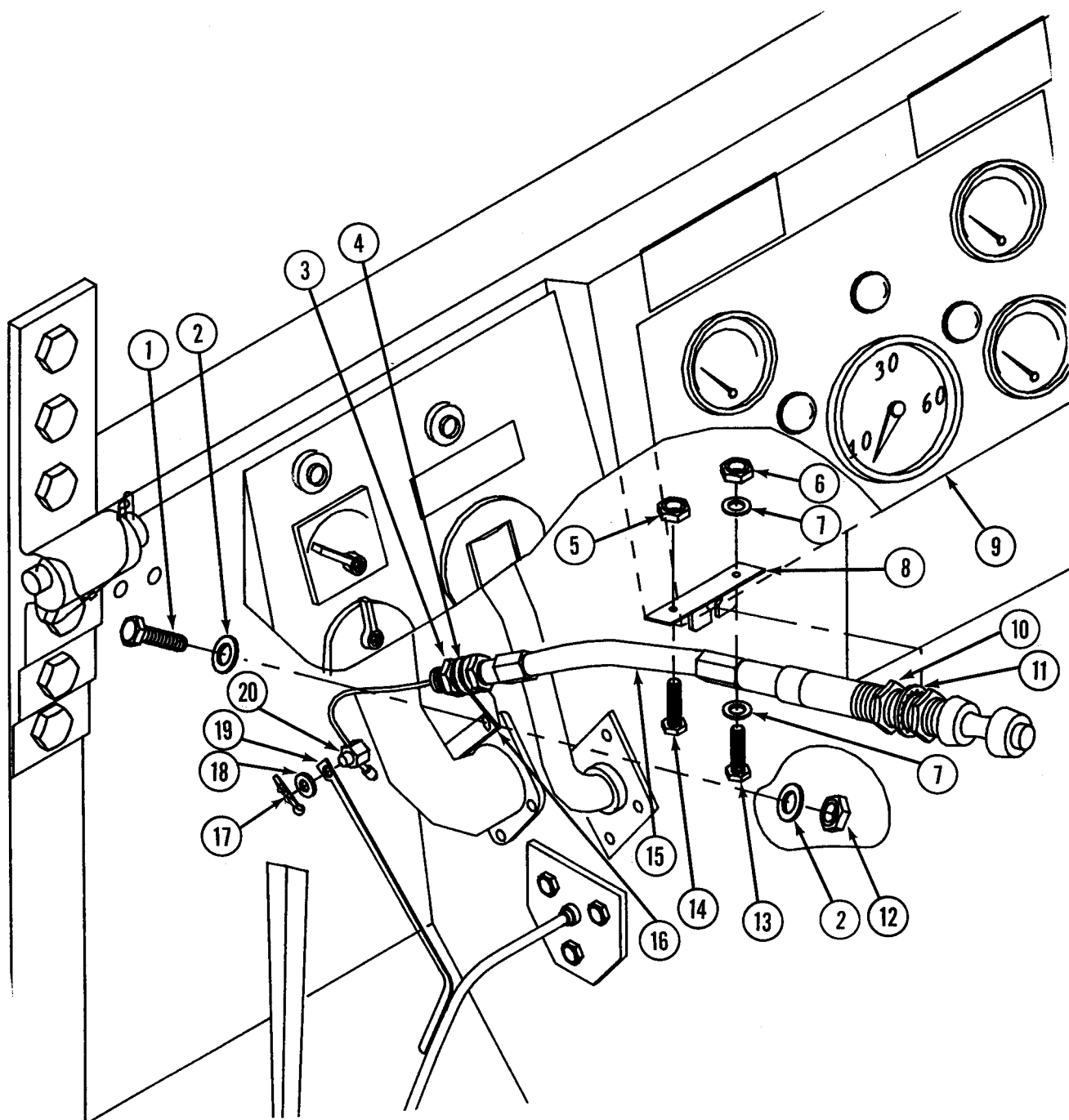


4-18. EES KIT INSTALLATION (Cont'd)

ff. Hand Throttle Cable Installation

1. Remove existing hand throttle cable and bracket (TM 9-2320-280-20).
2. Retain the following items:
 - (a) Hitch pin (17) and washer (18) that secures clevis (20) to accelerator rod (19);
 - (b) Two capscrews (1) and four washers (2) from lower mounting bracket; and
 - (c) Capscrew (13), two washers (7), screw (14), and nut (5) from upper mounting bracket.
3. Attach hand throttle bracket (8) to instrument panel (9) with screw (14) and nut (5). Do not tighten.
4. Secure hand throttle bracket (8) to instrument panel (9) with capscrew (13), two washers (7), and locknut (6).
5. Tighten screw (14) and nut (5) that secures hand throttle bracket (8) to instrument panel (9).
6. Install hand throttle cable (15) to hand throttle bracket (8). Secure by tightening nut (10) and lockwasher (11) on hand throttle cable (15).
7. Install hand throttle cable (15) to throttle cable end bracket (16). Tighten two washers (4) and nuts (3) on hand throttle cable (15).
8. Install throttle cable end bracket (16) on cowl and secure with two capscrews (1), four washers (2), and two self-locking nuts (12).
9. Secure clevis (20) to accelerator rod (19) with washer (18) and hitch pin (17).

4-18. EES KIT INSTALLATION (Cont'd)

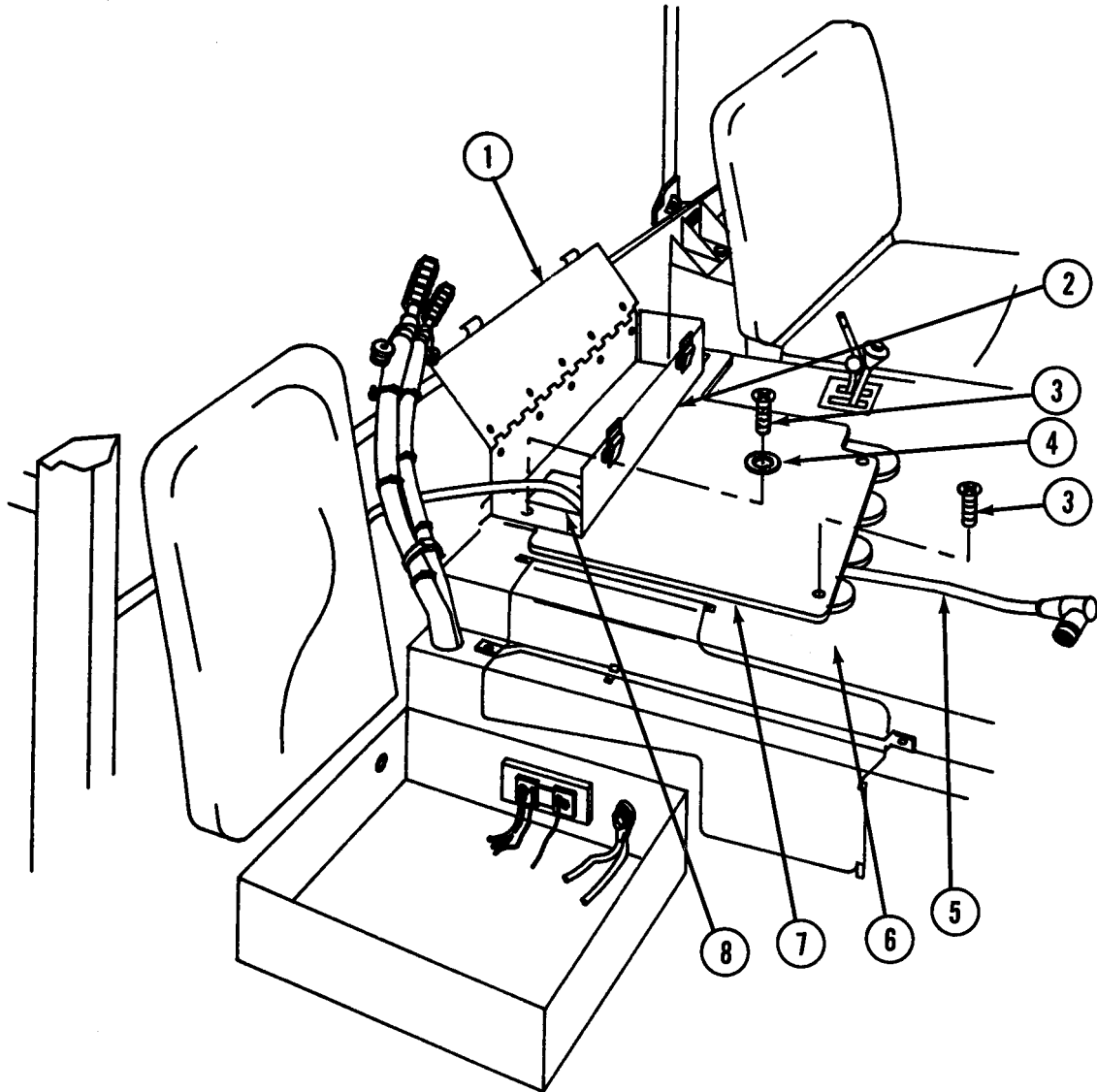


4-18. EES KIT INSTALLATION (Cont'd)

gg. Storage Box and Cable Assembly W64 Installation

1. Route cable assembly W64 (5) through cutout (8) in storage box (2).
2. Route cable assembly W64 (5) along cutout on underside of front floorboard (7).
3. Install storage box (2) and front floorboard (7) to transmission tunnel (6). Secure with two washers (4) and four screws (3).
4. Close and latch storage box cover (1).

4-18. EES KIT INSTALLATION (Cont'd)



4-18. EES KIT INSTALLATION (Cont'd)

hh. M16 Rifle Mount Installation

NOTE

Procedures for replacing the left and right rifle mounts are basically the same. This procedure covers the right rifle mount.

1. Align holes on left side of clamp bracket (4) with rivets (2) on dashboard bracket (1).
2. Using clamp bracket (4), determine center of two new holes (3) on dashboard bracket (1).

WARNING

- When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.
- Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand. Failure to do so could result in serious injury.

NOTE

Pin may need to be removed from hinge on driver's side for easier installation.

3. Using 1/4-inch drill bit, drill out two new holes (3).

NOTE

Stuffing rag in hole at top of support may prevent loss of hardware or tools.

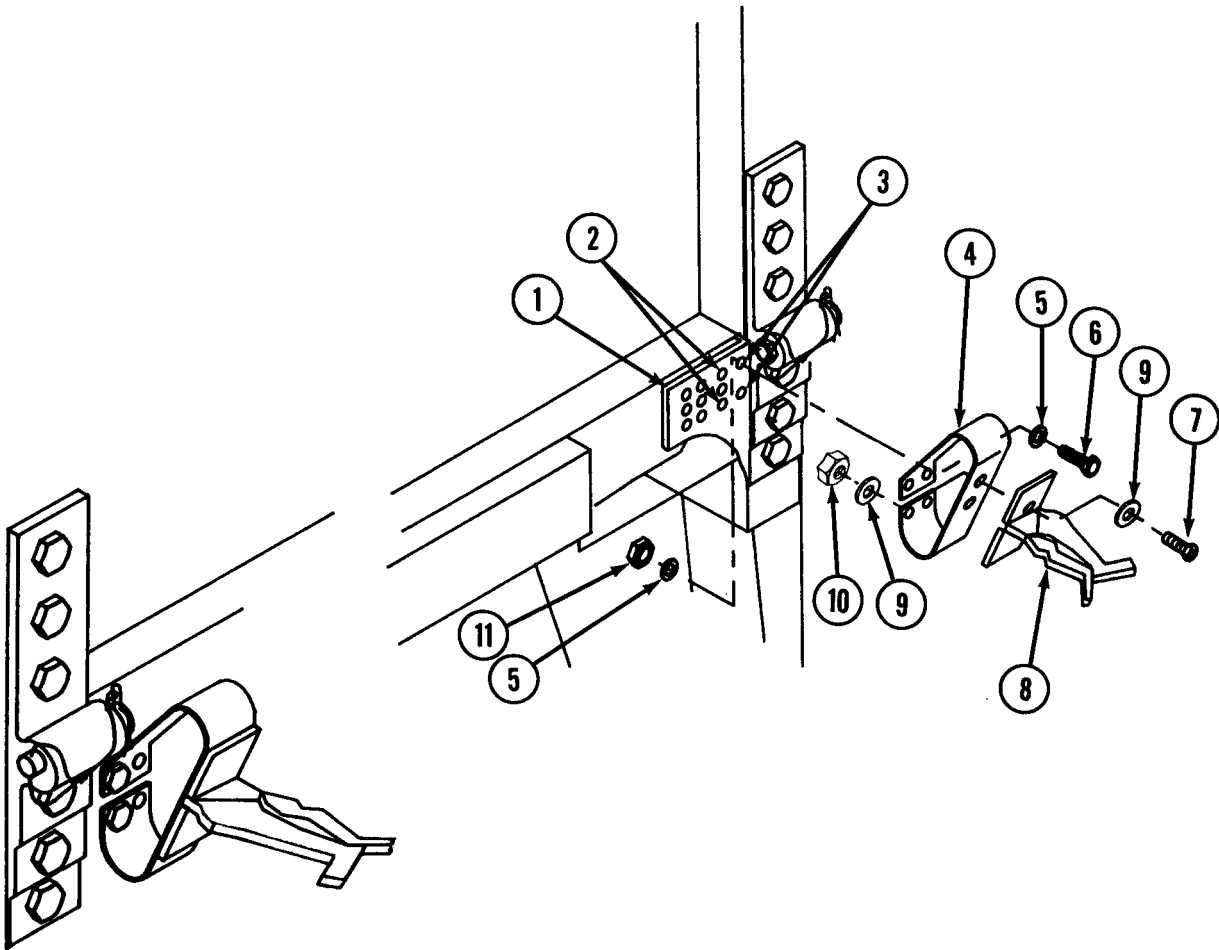
4. Using two capscrews (6), washers (5), and self-locking nuts (11), install clamp bracket (4),

NOTE

Ensure spring-loaded side of mounting clamp is to outside of vehicle.

5. Using two machine screws (7), washers (9), and self-locking nuts (10), install mounting clamp (8).

4-18. EES KIT INSTALLATION (Cont'd)



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| 4-18. EES KIT INSTALLATION (Cont'd) |
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NOTE

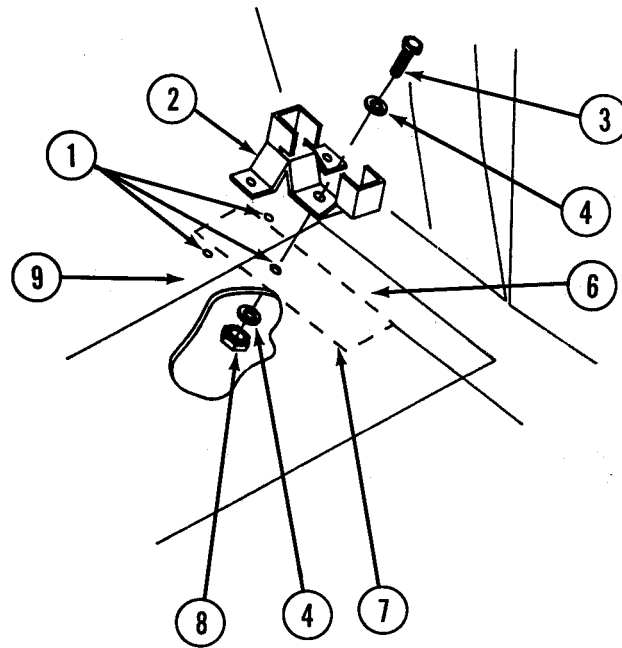
It may be necessary to lift floor insulation to find location of perforations.

6. Cut out floor insulation (6) at perforations (7). Mark outline of perforation on floor. Roll back floor insulation (6).
7. Place rifle mount (2) on floor (9) so that base of rifle mount (2) is centered in outline and rests flat against inclined section of floor (9).
8. Using rifle mount (2) as template, determine center of three holes (1). Remove rifle mount (2).

WARNING

- When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.
 - Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand. Failure to do so could result in serious injury.
9. Using 3/8-inch drill bit, drill three holes (1) into floor (9).
 10. Using three capscrews (3), six washers (4), and three self-locking nuts (8), install rifle mount (2) onto floor (9) of vehicle.
 11. Roll floor insulation (6) back over rifle mount (2).

4-18. EES KIT INSTALLATION (Cont'd)



4-18. EES KIT INSTALLATION (Cont'd)

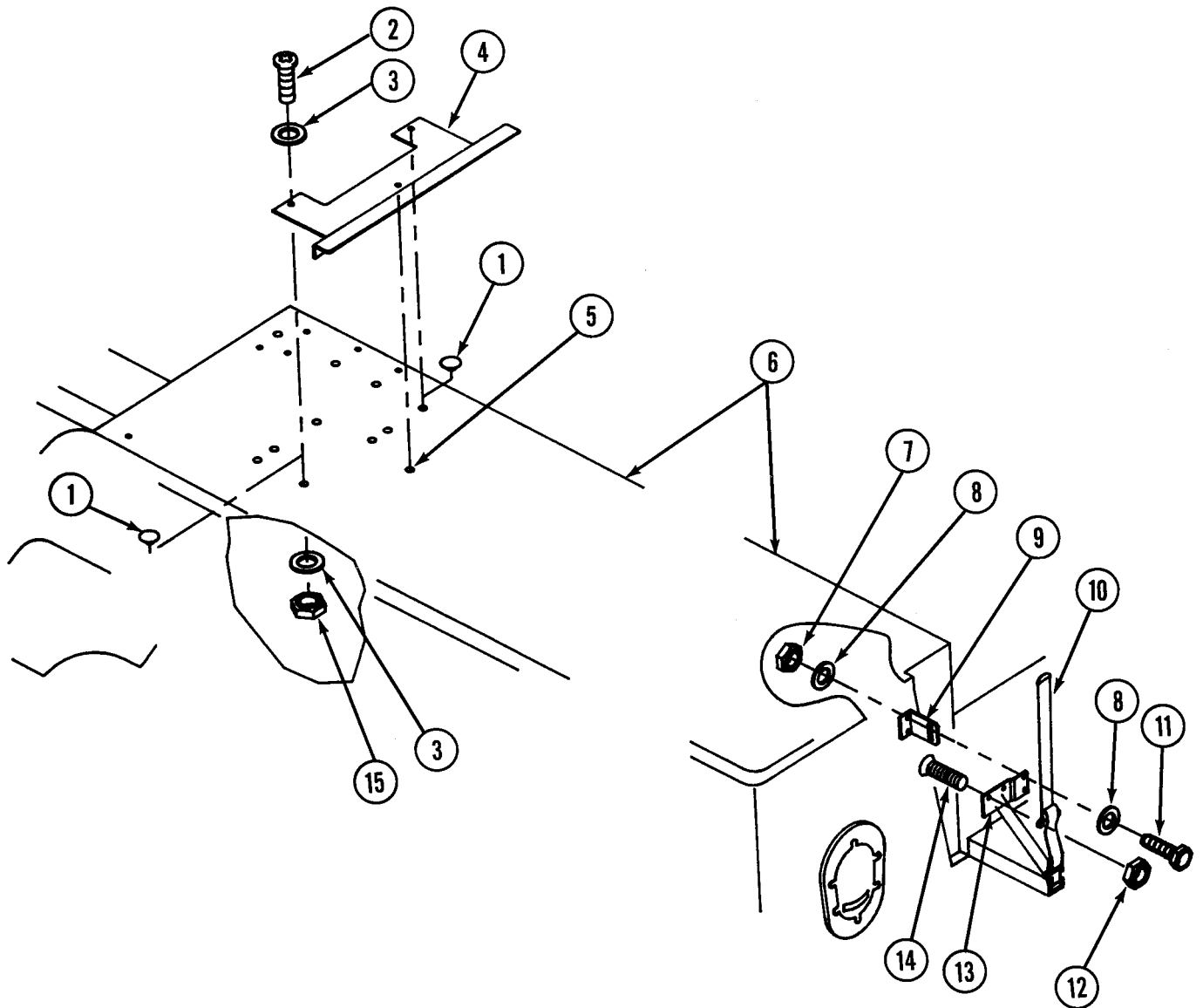
ii. Ladder Mount Installation

1. Remove two plastic cap plugs (1) from wheelhouse (6).
2. Using ladder retaining bracket (4) as a template, align two holes in ladder retaining bracket (4) with two holes in wheelhouse (6). Determine center of third hole (5) and remove ladder retaining bracket (4).

WARNING

- When drilling, be sure to wear goggles for eye protection or injury to personnel may occur.
 - Avoid skin contact with paint, primer, remover, and thinner particularly if there are cuts or open wounds on the hand. Failure to do so could result in serious injury.
3. Using 9/32-inch drill bit, drill hole (5) in wheelhouse (6).
 4. Secure ladder retaining bracket (4) to wheelhouse (6) with screws (2), washers (3), and self-locking nuts (15).
 5. Install ladder strap assembly (10) to ladder strap bracket (13) and secure with screws (14) and nuts (12).
 6. Remove two screws (11), washers (8), and self-locking nuts (7) that secure tailgate bracket (9) to wheelhouse (6). Remove tailgate bracket (9) and retain screws (11), washers (8), and self-locking nuts (7),
 7. Place ladder strap bracket (13) over tailgate bracket (9). Secure with two screws (11), washers (8), and self-locking nuts (7).

4-18. EES KIT INSTALLATION (Cont'd)



4-18. EES KIT INSTALLATION (Cont'd)

jj. Power Interface Box Installation

NOTE

Refer to paragraph 3-29b for installation of power interface box.

kk. Tach/Hourmeter Box Installation

NOTE

Refer to paragraph 3-17b for installation of tach/hourmeter box.

ll. Surge Tank Installation

NOTE

Refer to TM 9-2320-280-20 for installation of surge tank.

mm. Surge Tank to Lower Radiator Hose Installation

NOTE

Refer to TM 9-2320-280-20 for installation of surge tank to lower radiator hose

nn. Air Horn to Air Cleaner Elbow Installation

NOTE

Refer to TM 9-2320-280-20 for installation of air horn to air cleaner elbow.

oo. Power Steering Drive Belt Installation

NOTE

Refer to TM 9-2320-280-20 for installation of power steering drive belt.

4-18. EES KIT INSTALLATION (cont'd)

pp. 200 Amp Alternator Drive Belt Set Installation

NOTE

Refer to TM 9-2320-280-20 for installation of
200 amp alternator drive belt set.

qq. Compressor Drive Belt Installation

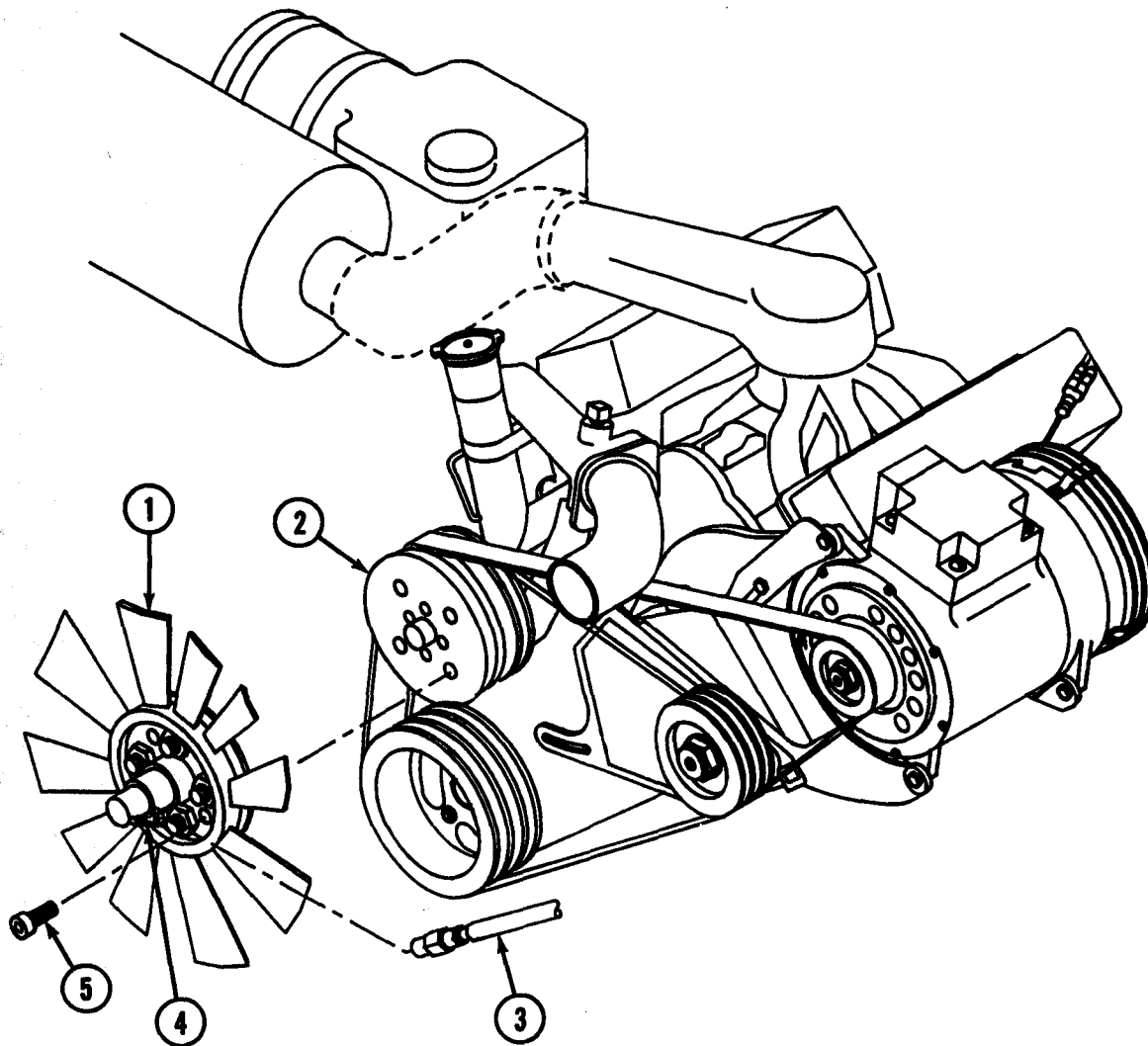
NOTE

Refer to TM 9-2320-280-34 for installation of
compressor drive belt.

4-18. EES KIT INSTALLATION (Cont'd)

rr. Fan Drive Assembly Installation

1. Apply sealing compound to four socket head screws (5) and secure fan drive assembly (1) to water pump pulley (2). Using 6mm hex head socket wrench attachment, tighten socket head screws (5) to 45 lb-ft (61 N•m).
2. Connect fan drive hose (3) to fitting (4) on fan drive assembly (1).



4-18. EES KIT INSTALLATION (Cont'd)

ss. Radiator and Fan Shroud Installation

NOTE

Refer to TM 9-2320-280-20 for installation of radiator and fan shroud.

tt. Engine and Transmission Oil Cooler Assembly Installation

NOTE

Refer to TM 9-2320-280-20 for installation of engine and transmission oil cooler assembly.

uu. Left Splash Shield Installation

NOTE

Refer to TM 9-2320-280-20 for installation of left splash shield.

vv. Hood Prop Rod and Bracket Installation

NOTE

Refer to TM 9-2320-280-20 for installation of hood prop rod and bracket.

ww. Right Splash Shield Installation

NOTE

Refer to TM 9-2320-280-20 for installation of right splash shield.

4-18. EES KIT INSTALLATION (Cont'd)

xx. Hood Installation

NOTE

Refer to TM 9-2320-280-20 for installation of hood .

FOLLOW-ON TASK: Install batteries (TM 9-2320-280-20).

APPENDIX A REFERENCES

A-1. SCOPE

This appendix contains lists of all forms, field manuals, technical manuals, and other publications required for use with this manual.

A-2. PUBLICATIONS INDEX

The following index should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this manual.

Consolidated Index of Army
Publications and Blank Forms DA Pam 25-30

A-3. FORMS

Accident Report DA Form 285
Recommended Changes to Publications
and Blank Forms DA Form 2028
Recommended Changes to Equipment
Technical Publications DA Form 2028-2
Hand Receipt/Annex Number DA Form 2062
Exchange Tag DA Form 2402
Equipment Inspection and Maintenance
Worksheet DA Form 2404
Maintenance Request DA Form 2407
The Army Maintenance Management System (TAMMS) DA Pam 738-750
Preventive Maintenance Schedule and Record DD Form 314
Quality Deficiency Report SF 368

A-4. FIELD MANUALS

First Aid for Soldiers FM 21-11

A-5. TECHNICAL MANUALS

Operator's Manual for Welding Theory and Application TM 9-237
Materials used for Cleaning, Preserving, Abrading,
and Cementing Ordnance Material and Related
Material (Including Chemicals) TM 9-247
Operator's Manual for Truck, 1-1/4 Ton,
4X4, M998 Series TM 9-2320-280-10
Organizational Maintenance Manual for
Truck, 1-1/4 Ton, 4X4, M998 Series TM 9-2320-280-20

A-5. TECHNICAL MANUALS (Cont'd)

Organizational Maintenance Repair Parts
and Special Tools List for
Truck, 1-1/4 Ton, 4X4, M998 Series TM 9-2320-280-20P

Direct Support and General Support
Maintenance Manual for Truck, 1-1/4 Ton,
4X4, M998 Series TM 9-2320-280-34

Direct Support and General Support
Maintenance Repair Parts and Special
Tools List for Truck, 1-1/4 Ton,
4X4, M998 Series TM 9-2320-280-34P

Operation Instructions, Countermeasures Set
AN/TLQ-17A(V), (V)1 (NSN 5865-01-004-1098),
(V)2 (NSN 5865-01-069-3791) TM 32-5865-005-10

Operator's Manual for Traffic Jam
AN/TQ-17A(v)3 (HMMWV) TM 32-5865-301-10

Unit, Direct Support, and General Support
Maintenance Manual for Traffic Jam
AN/TLQ-17A(v)3 (HMMWV) TM 32-5865-301-24

Unit, Direct Support, and General Support
Maintenance Repair Parts and Special
Tools List for Traffic Jam
AN/TLQ-17A(v)3 (HMMWV) TM 32-5865-301-24P

Unit and Direct Support Maintenance Manual
including Repair Parts and Special Tools
List for Converter
CV-3967/TLQ-17A(V) (6130-01-267-8242) TM 32-6130-005-23&P

Painting Instructions for Army Materiel TM 43-0139

Procedures for Destruction of Equipment
to Prevent Enemy Use TM 750-244-6

A-6. TECHNICAL BULLETINS

Calibration and Repair Requirements for the
Maintenance of Army Materials TB 43-180

A-7. ARMY REGULATIONS

Identification and Distribution of DA Publications
and Issue of Agency and Command Administrative
Publication AR 310-2

Dictionary of United States Army Terms AR 310-25

A-8. OTHER PUBLICATIONS

Expendable Items CTA 50-970

Lubrication Order for Truck, 1-1/4 Ton,
4X4, M998 Series LO 9-2320-280-12

APPENDIX B MAINTENANCE ALLOCATION CHART (MAC)

Section I. INTRODUCTION

B-1. GENERAL

- a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance categories.
- b. The Maintenance Allocation Chart (MAC) in section II is used to designate overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.
- c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from section II.
- d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS

Maintenance functions will be limited to and defined as follows:

- a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).
- b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.
- c. Service. Operations required periodically to keep an item in proper operating condition, i.e. , to clean (includes decontaminate, when required), preserve, drain, paint, or to replenish fuel, lubricants, chemical fluids, or gases.
- d. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.
- e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

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| B-2. MAINTENANCE FUNCTIONS (Cont'd) |
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f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the 3rd position code of the SMR code.

i. Repair. To apply maintenance services, including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. To perform that maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.

k. Rebuild. To perform those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

| |
|---|
| B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II |
|---|

a. Column (1) - Group Number. Column 1 contains a list of functional group code numbers for the purpose of identifying maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

b. Column (2) - Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column (3) - Maintenance Function. Column 3 contains a list of the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see para B-2.)

| |
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| B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II (Cont'd) |
|--|

d. Column (4) - Maintenance Level. Column 4 contains the level of maintenance authorized to perform the function listed in column 3, specified by listing a work time figure in the appropriate subcolumn(s). This figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance categories, appropriate work time figures will be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance categories are as follows:

| | |
|---------|-----------------------------|
| C | Operator or crew |
| O | Unit maintenance |
| F | Direct support maintenance |
| H | General support maintenance |
| D | Depot maintenance |

e. Column (5) - Tools and Equipment. Column 5 contains a list, by code, of those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. Column (6) - Remarks. Column 6, when applicable, shall contain a letter code, in alphabetical order, which shall be keyed to the remarks contained in section IV.

| |
|---|
| B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III |
|---|

a. Column (1) - Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, section II, column 5.

b. Column (2) - Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

c. Column (3) - Nomenclature. The name or identification of the tool or test equipment.

d. Column (4) - National Stock Number. The national stock number of the tool or test equipment.

e. Column (5) - Tool Number. The manufacturer's part number.

| |
|---|
| B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV |
|---|

a. Column (1) - Reference Code. Column 1 contains the code recorded in column 6, section II.

b. Column (2) - Remarks. Column 2 contains information pertaining to the maintenance function being performed as indicated in the MAC, section II.

Section II. MAINTENANCE ALLOCATION CHART

| (1) Group Number | (2) Component/ Assembly | (3) Maintenance Function | (4) Maintenance Level | | | | | (5) Tools and Equip. | (6) Remarks |
|---------------------------------------|--|---------------------------------------|--------------------------|-----|-----|------|----------------|---|----------------|
| | | | | | | | | | |
| | | | C | O | F | H | D | | |
| 33 | SPECIAL PURPOSE KITS | | | | | | | | |
| 3307 | Electrical Environmental System (EES) Kit | Test | | 1.4 | | | | 2,5 | D |
| | | Install | | | | 40.0 | | 1,2,3,4, 5,7,8,9, 10,11, 12,13 | C |
| | | Repair | | .7 | | | | 1 | G |
| | Water Pump Pulley | Install | | | | .3 | | 1,13 | |
| | | Replace | | 4.8 | | | | | B |
| | Alternator Pulley | Install | | | | .3 | | | B |
| | | Replace | | 4.5 | | | | | |
| | 200 Amp Alternator | Inspect | | .2 | | | | | |
| | | Test | | .3 | | | | | B |
| | | Install | | | | 1.5 | | 1 | |
| | | Replace | | 4.0 | | | | | B |
| | | Repair | | | 4.0 | | | | F |
| | | 200 Amp Alternator Ground Strap | Install | | | | .2 | | 1 |
| | Replace | | | .3 | | | | | |
| 200 Amp Alternator Cable | Install | | | | .9 | | 2 | | |
| | Replace | | 1.2 | | | | | B | |
| Compressor | Inspect | | .1 | | | | | | |
| | Service | | | 1.6 | | | | A | |
| | Install | | | | 4.2 | | | E | |
| | Replace | | | 1.5 | | | | F | |
| | Repair | | | 3.0 | | | | F | |
| Wire No. 798 | Install | | | | .3 | | | | |
| | Replace | | .5 | | | | | | |
| | Repair | | .3 | | | | | | |
| Air Conditioning Service Valves | Install | | | | .2 | | 3 | | |
| | Replace | | | 6 | | | | F | |
| Freon Lines | Install | | | | 1.3 | | 3,6,7 10,12 | | |
| | Replace | | | 1.0 | | | 3,6,7 | | |

Section II. MAINTENANCE ALLOCATION CHART (Cont'd)

| (1) Group Number | (2) Component/ Assembly | (3) Maintenance Function | (4) Maintenance Level | | | | | (5) Tools and Equip. | (6) Remarks |
|------------------------|-----------------------------------|--|--------------------------|--------------------|----|----|---|-------------------------------|----------------|
| | | | | | | | | | |
| | | | C | O | F | H | D | | |
| | Cable Assembly W66 | Install Replace Repair | | .5 .5 | | .6 | | 3 3 3 | |
| | Hand Throttle Cable | Inspect Test Service Adjust Install Replace | .1 .1 | .1 .1 .1 | | .6 | | 1 1 1 1 | |
| | Storage Box | Install Replace Repair | | .1 .8 | | .1 | | 1 1 1 | |
| | Cable Assembly W64 | Install Replace | | .2 | | .1 | | 1 1 | |
| | Power Interface Box | Inspect Test Service Install Replace Repair | .2 .2 | .2 4.5 | .4 | .3 | | 3 3,8 1 1,3 | |
| | Tach/hourmeter Box | Inspect Test Service Install Replace Repair | .1 .1 | .3 .2 .8 | | .1 | | 2,9,12 1 1 | |
| | Surge Tank | Install Replace | | .6 | | .3 | | 1 | B |
| | Surge Tank to Lower Radiator Hose | Install Replace | | .6 | | .3 | | 1 | B |
| | Air Horn to Air Cleaner Elbow | Install Replace | | .3 | | .2 | | 1 | B |

Section II. MAINTENENCE ALLOCATION CHART (Cont'd)

| (1) Group Number | (2) Component/ Assembly | (3) Maintenance Function | (4) Maintenance Level | | | | | (5) Tools and Equip. | (6) Remarks |
|------------------------|-------------------------------|--------------------------------|--------------------------|-----|---|----|---|-------------------------------|----------------|
| | | | | | | | | | |
| | | | C | O | F | H | D | | |
| | Power Steering Drive Belt | Install Replace | | 1.0 | | .6 | | 1 | B |
| | 200 Amp Alternator Drive Belt | Install Replace | | 1.0 | | .6 | | 1 | B |
| | Compressor Drive Belt | Install Replace | | 1.0 | | .6 | | 1 | B |
| | Engine Oil Pressure Gage | Install Replace | | .5 | | .5 | | | B B |
| | Coolant Temperature Gage | Install Replace | | .5 | | .5 | | | B B |
| | Fuel Gage | Install Replace | | .5 | | .5 | | | B B |

SECTION III. TOOLS AND TEST EQUIPMENT REQUIREMENTS

| (1) REFERENCE CODE | (2) MAINTENANCE CATEGORY | (3) NOMENCLATURE | (4) NATIONAL/NATO STOCK NUMBER | (5) TOOL NUMBER |
|--------------------------|--------------------------------|--|--------------------------------------|-----------------------|
| 1 | O | TOOL KIT, GENERAL MECHANIC'S AUTOMOTIVE | 5180-00-177-7033 | |
| 2 | O | SHOP EQUIPMENT, AUTO- MOTIVE MAINTENANCE AND REPAIR: ORGANIZA- TIONAL MAINTENANCE, COMMON #1, LESS POWER | 4910-00-754-0654 | |
| 3 | F | SHOP EQUIPMENT, AUTO- MOTIVE MAINTENANCE AND REPAIR: FIELD MAINTENANCE, BASIC, LESS POWER | 4910-00-754-0705 | |
| 4 | F | SHOP EQUIPMENT, MACHINE SHOP: FIELD MAINTENANCE, BASIC | 3470-00-754-0708 | |
| 5 | O | LEAD SET, TEST | 6625-00-444-4041 | |
| 6 | O | CROWSFOOT, 1 3/16-INCH | 5120-00-229-2774 | |
| 7 | O | CROWSFOOT, 1 5/8-INCH | 5120-00-181-6753 | |
| 8 | H | PUNCH AND DIE, KNOCKOUT (1-3/4") | 5110-00-062-0883 | |
| 9 | H | BLADE, HOLE SAW (1-5/8") | 3455-00-335-3045 | |
| 10 | H | BLADE, HOLE SAW (2-5/8") | 3455-00-22-4143 | |
| 11 | H | BLADE, HOLE SAW (2-1/2") | 3455-01-196-0636 | |
| 12 | H | ARBOR, HOLE SAW | 3460-00-540-1291 | |
| 13 | O | SOCKET WRENCH ATTAC., HEX, 6MM, 3/8 DRIVE | 5120-01-055-1308 | |

SECTION IV. REMARKS

| (1) Reference Code | (2) Remarks |
|--------------------------|---|
| A | Refer to unit PMCS in TM 9-2320-280-20. |
| B | Refer to TM 9-2320-280-20 for repair procedures, test equipment, and tools required. |
| C | Installation of EES kit components into standard M1037 truck. |
| D | Test consists of troubleshooting cable assembly W64, cable assembly W66, and hand throttle cable. |
| E | Refer to TM 9-2320-280-34 for service procedures. |
| F | Refer to TM 9-2320-280-34 for installation/repair procedures, test equipment, and tools required. |
| G | Repair consists of replacement of safety lanyard, ladder mount components, M16 rifle support, M16 rifle mounting clamp bracket, and M16 rifle mounting bracket. Refer to TM 9-2320-280-20 for procedures to replace M16 rifle mount components. |

APPENDIX C
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

C-1. SCOPE

This appendix contains a list of expendable/durable supplies and materials the user will need to operate and maintain the components of the EES kit. These items are authorized to the user by CTA 50-970, Expendable Items (except Medical, Class V, Repair Parts, and Heraldic Items).

C-2. EXPLANATION OF COLUMNS

a. column (1) - Item Number. This column contains a list of the numbers assigned to the entries; the numbers are referenced in the "Initial Setup" of applicable tasks under the heading of "Material/Parts ."

b. Column (2) - Level. This column is used to identify the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Unit Maintenance
F - Direct Support Maintenance
H - General Support Maintenance

c. Column (3) - National Stock Number. This column contains a list of the national stock numbers assigned to the item. Use it to request or requisition the item.

d. Column (4) - Description. This column is used to indicate the Federal item name and, if required, a description to identify the item. The last line for each item listing indicates the Commercial and Government Entity Code (CAGE) in parenthesis followed by the part number.

e. Column (5) - Unit of Measure (U/M). This column is used to indicate the measure used in performing the actual maintenance function. This measure is expressed by an alphabetical abbreviation (QT, GAL.). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

SECTION II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

| (1) | (2) | (3) | (4) | (5) |
|----------------|-------|--------------------------|---|------|
| ITEM NUMBER | LEVEL | NATIONAL STOCK NUMBER | DESCRIPTION | U/M |
| 1 | O | | ANTISEIZE COMPOUND, CONDUCTIVE (59730) CP-16 | |
| | | 8030-00-155-6444 | 16 OZ. CAN | CN. |
| 2 | F | | COPPER SHIELD (34623) 5976480 | |
| | | | 1 BOTTLE | CC |
| 3 | C | | DETERGENT: GENERAL PURPOSE LIQUID (81349) MIL-D-16791 | |
| | | 7930-00-282-9699 | 1 GALLON CONTAINER | GAL. |
| 4 | F | | LUBRICATING OIL: REFRIGERANT, COMPRESSOR (59595) CAPELLA WF-68 | |
| | | 9150-00-071-4712 | 1 GALLON CAN | GAL. |
| 5 | C | | RAG: WIPING, COTTON AND COTTON-SYNTHENIC (58536) A-A-531 | |
| | | 7920-00-205-1711 | 50 POUND BALE | LB |
| 6 | O | | SEALANT, EXTERIOR: (80063) SC-C-681272-1 | |
| | | | 1 TUBE | TU |
| 7 | O | | SEALING COMPOUND: THREAD LOCKING, HIGH STRENGTH (80244) MIL-S-46163 TYPE I GRADE K | |
| | | 8030-00-148-9833 | 10CC BOTTLE | CC |
| 8 | O | | SOLDER, TIN ALLOY: (81348) SN60WRMAP3 0.0325 LB | |
| | | 3439-00-781-2629 | 1 POUND COIL | LB |

SECTION II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

| (1) | (2) | (3) | (4) | (5) |
|----------------|-------|--------------------------|--|-----|
| ITEM NUMBER | LEVEL | NATIONAL STOCK NUMBER | DESCRIPTION | U/M |
| 9 | F | | TAPE, PRESSURE SENSITIVE A-A-1689 TY1 CL2 (18876) | |
| | | 7510-00-634-2786 | 36 INCH ROLL | RO |

APPENDIX D

UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE
REPAIR PARTS AND SPECIAL TOOLS LISTS (RPSTL)

SECTION I. INTRODUCTION

D-1. Scope

This Repair Parts and Special Tools List (RPSTL) is used to identify and authorize spare and repair parts; special tools; special Test, Measurement, and Diagnostic Equipment (TMDE); and other special support equipment required for performance of unit, direct support, and general support maintenance of the components of the Electrical Environmental System (EES) kit. For any part not found in this RPSTL, see TM 9-2320-280-20P and TM 9-2320-280-34P for the 1-1/4 ton, 4X4, M998 series vehicles. The RPSTL authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the Source, Maintenance, and Recoverability (SMR) codes.

D-2. General

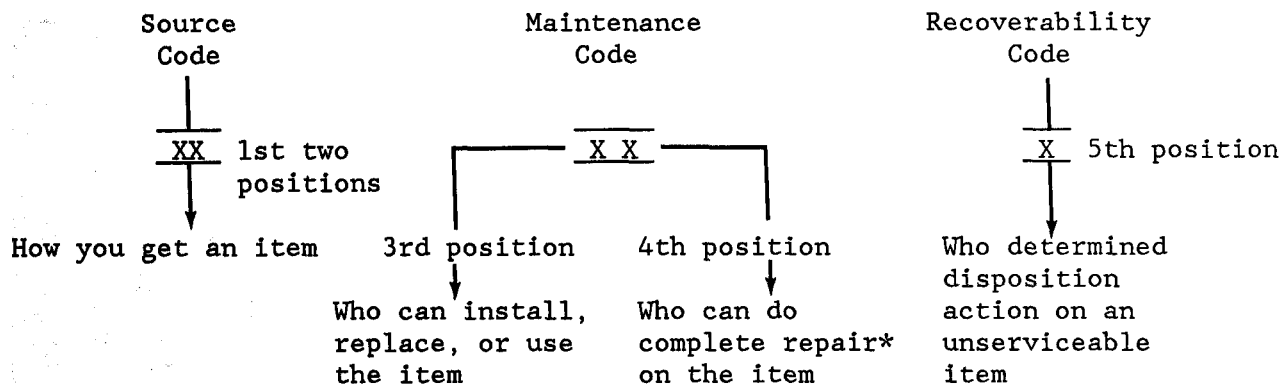
In addition to section I, Introduction, this RPSTL is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed by item name in FIG BULK at the end of the section. Repair parts kits are listed separately in their own functional group within Section II. Repair parts for repairable special tools are also listed in this section. Items listed are shown on the associated illustration(s)/figure(s) .

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE (UOC) column) for the performance of maintenance.

c. Section IV. Cross-reference Indexes. A list, in National Item Identification Number (NIIN) sequence, of all national stock numbered items, followed by a list in alphanumeric sequence of all part numbers appearing in the listing. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance. The figure and item number index contains a list of figures and item numbers in alphanumeric sequence and the NSN's, CAGE's, and part numbers are cross-referenced.

b. **Column (2) - SMR Code.** This column indicates the 5-position code that contains supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:



*Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) **Source Code.** The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment, Explanations of source codes follows:

| code | Explanation |
|-------------------------|---|
| PA | Stocked items: Use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the third position of the SMR code. **NOTE: Items coded PC are subject to deterioration. |
| PB | |
| PC** | |
| PD | |
| PE | |
| PF | |
| PG | |
| KD | Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the third position of the SMR code. The complete kit must be requisitioned and applied. |
| KF | |
| KB | |
| MO (Made at Org Level) | Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the Bulk Material group of the repair parts list in this RPSTL. If the item is authorized to you by the third position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance. |
| MF (Made at DS Level) | |
| MH (Made at GS Level) | |
| MD (Made at Depot) | |

| Code | Explanation |
|-------------------------------|---|
| AO - (Assembled by Org Level) | Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the third position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance. |
| AF - (Assembled by DS Level) | |
| AH - (Assembled by GS Level) | |
| AD - (Assembled by Depot) | |
| XA | - Do not requisition an "XA"-coded item. Order its next higher assembly. (Also, refer to the NOTE below.) |
| XB | - If an "XB" item is not available from salvage, order it using the FSCM and part number given. |
| XC | - Installation drawing, diagram, instruction sheet, or field service drawing that is identified by manufacturer's part number. |
| XD | - Item is not stocked. Order an "XD"-coded item through normal supply channels using the FSCM and part number given, if no NSN is available. |

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA."

(2) Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item, and the code indicates authorization to one of the following levels of maintenance:

| Code | Application/Explanation |
|------|--|
| C | - Crew or operator maintenance done within organizational maintenance. |
| O | - Organizational level can remove, replace, and use the item. |
| F | - Direct support level can remove, replace, and use the item. |
| H | - General support level can remove, replace, and use the item. |
| D | - Depot level can remove, replace, and use the item. |

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired, and the code identifies the lowest maintenance level with the capability to do complete repair (i.e. , perform all authorized repair functions). (NOTE: Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes.

| Code | Application/Explanation |
|------|---|
| O | - Organizational is the lowest level that can do complete repair of the item. |
| F | - Direct support is the lowest level that can do complete repair of the item. |
| H | - General support is the lowest level that can do complete repair of the item. |
| D | - Depot is the lowest level that can do complete repair of the item. |
| Z | - Unrepairable. No repair is authorized. |
| B | - No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item). However, the item may be reconditioned by adjusting, lubricating, etc., at the user level. |

(3) **Recoverability Code.** Recoverability codes are assigned to items to indicate the disposition actions on unserviceable items. The recoverability code is entered in the fifth position of the SMR code as follows:

| Code | Application/Explanation |
|------|--|
| Z | - Nonrepairable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in third position of SMR code. |
| O | - Repairable item. When uneconomically repairable, condemn and dispose of the item at organizational level. |

| Code | Application/Explanation |
|------|---|
| F | - Repairable item. When uneconomically repairable, condemn and dispose of the item at the direct support level. |
| H | - Repairable item. When uneconomically repairable, condemn and dispose of the item at general support level. |
| D | - Repairable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level. |
| A | - Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions. |

c. **Column (3) - CAGE.** The Commercial and Government Entity Code (CAGE) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc. , that supplies the item.

d. **Column (4) - PART NUMBER.** This column indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity) which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered.

e. **column (5) - Description and Usable on Code (UOC).** This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) Items that are included in kits and sets are listed below the name of the kit or set.

(3) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

(4) Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.

(5) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC).

(6) The usable on code, when applicable (see paragraph 5, special information).

(7) In the Special Tools List section, the Basis of Issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

(8) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Sections II and Section III.

f. **Column (6) - QTY.** The QTY (quantity per figure column) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

D-4. Explanation of Columns (Section IV)

a. National Stock Number (NSN) Index

(1) **Stock Number Column.** This column lists the NSN by National Item Identification Number (NIIN) sequence. The NIIN consists of the last

nine digits of the NSN (i.e., ^{NSN}5305-01-674-1467). When using the NIIN column to ^{NIIN}locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

(2) **Fig. Column.** This column contains a list of the numbers of the figures where the items are identified/located. The figures are in numerical order in Section II and Section III.

(3) **Item Column.** This column identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. **Part Number Index.** This column contains a list of part numbers in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

(1) **CAGE Column.** The Commercial and Government Entity Code (CAGE) is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(2) **Part Number Column.** This column indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity) which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

(3) **Stock Number Column.** This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and FSCM columns to the left.

(4) **Fig. Column.** This column lists the number of the figure where the item is identified/located in Sections II and III.

(5) **Item Column.** The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

c. Figure and Item Number Index.

(1) **Fig. Column.** This column lists the number of the figure where the item is identified/located in Section II and III.

(2) **Item Column.** The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

(3) **Stock Number Column.** This column lists the NSN for the item.

(4) **CAGE Column.** The Commercial and Government Entity Code (CAGE) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc. , that supplies the item.

(5) **Part Number Column.** This column indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

| |
|---------------------------------|
| D-5. Special Information |
|---------------------------------|

a. Usable On Code. The usable on code appears in the lower left corner of the description column heading. Usable on codes are shown as "UOC:" in the description column (justified left) on the first line applicable item description/nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes used in the RPSTL are:

| Code | Used On |
|------|------------|
| H21 | M1037 WO/W |

b. Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk materials are also referenced in the description column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source codes to be manufactured or fabricated are found in this manual.

c. Index Numbers. Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk material list in section II.

| |
|--|
| D-6. How to Locate Repair Parts |
|--|

a. When National Stock Number or Part Number is Not Known:

(1) First. Using the Table of Contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

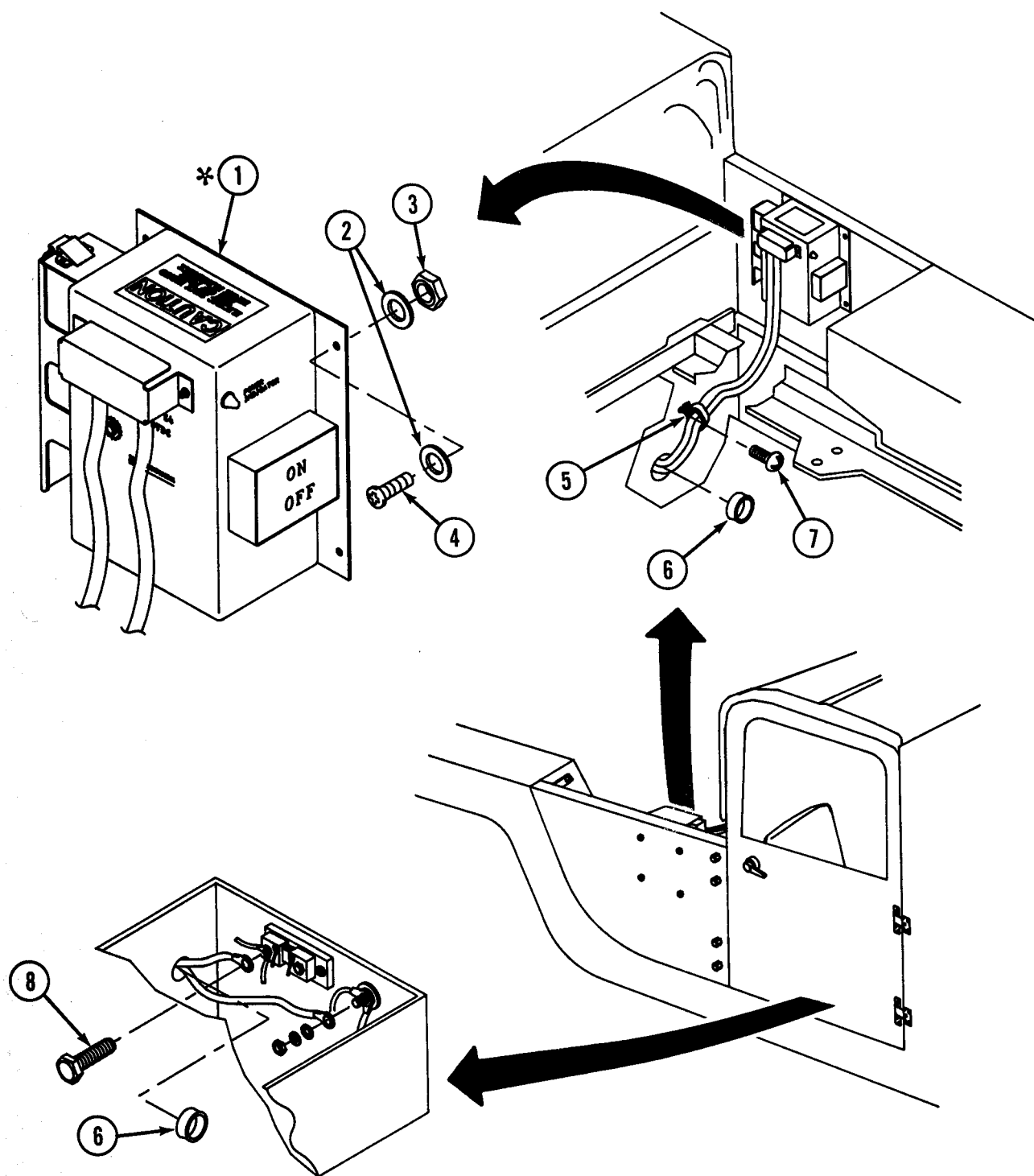
(2) Second. Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) Third. Identify the item on the figure and use the Figure and Item Number Index to find the NSN.

b. When National Stock Number or Part Number is Known:

(1) First. Using the National Stock Number Index and the Part Number Index, find the pertinent NSN or part number. The NSN index is in NIIN sequence [see 4.a.(1)]. The part numbers in the Part Number Index are listed in ascending alphanumeric sequence [see 4.b.]. Both indexes cross-reference you to the illustration/figure and item number of the item you are looking for.

(2) Second. Turn to the figure and item number, verify that the item is the one you're looking for, then locate the item number in the Repair Parts List for the figure.



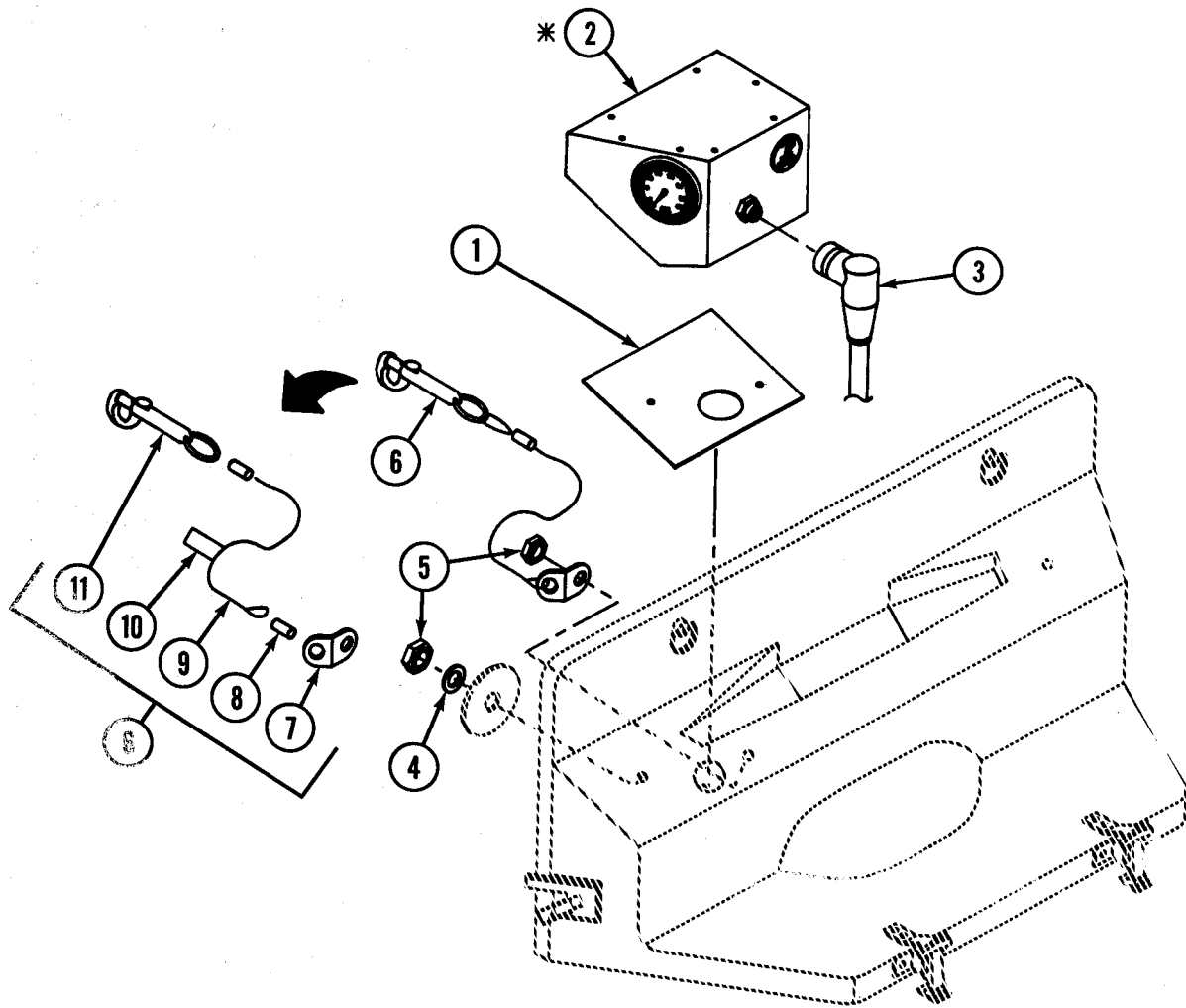
* For parts breakout, see Figure 26.

Figure 1. EES Kit, Power Interface Box Assembly

SECTION II. REPAIR PARTS LIST

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|---|--------------------|---------------------|-----------------------|--|------------|
| GROUP 3307: EES KIT FIG. 1 POWER INTERFACE BOX ASSEMBLY | | | | | |
| 1 | PAOFF | 57958 | C5136320 | POWER INTERFACE BOX, PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 96906 | MS15795-810 | WASHER, FLAT, PART OF EES KIT P/N C5136350 | 8 |
| 3 | PAOZZ | 96906 | MS17830-4C | NUT, SELF-LOCKING, HEX, PART OF EES KIT P/N C5136350 | 4 |
| 4 | PAOZZ | 96906 | MS51957-81 | SCREW, MACHINE, PART OF EES KIT P/N C5136350 | 4 |
| 5 | PAOZZ | 96906 | MS21334-32 | CLAMP, LOOP, PART OF EES KIT P/N C5136350 | 1 |
| 6 | PAFZZ | 96906 | MS35489-27 | GROMMET, NONMETALLIC PART OF EES KIT P/N C5136350 | 2 |
| 7 | PAOZZ | 96906 | MS51861-47C | SCREW, TAPPING, PART OF EES KIT P/N C5136350 | 1 |
| 8 | PAOZZ | 96906 | MS18154-60 | SCREW, CAP, HEXAGON, PART OF EES KIT P/N C5136350 | 1 |
| END OF FIGURE | | | | | |



* For parts breakout, see Figure 25.

Figure 2. EES Kit, Tach/Hourmeter Assembly

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|---|--------------------|---------------------|-----------------------|--|------------|
| GROUP 3307: EES KIT FIG. 2 TACH/ HOURMETER ASSEMBLY | | | | | |
| 1 | PBOZZ | 57958 | C5136339 | SEAL, TACK/HOURMETER, PART OF EES KIT P/N C5136350 | 1 |
| 2 | XC000 | 57958 | C5136334 | TACH/HOURMETER ASSY. PART OF EES KIT P/N C5136350 | 1 |
| 3 | PAOZZ | 57958 | C5136365 | CABLE ASSY, STATUS WARNING W64, PART OF EES KIT P/N C5136350 | 1 |
| 4 | PAOZZ | 96906 | MS15795-808 | WASHER, FLAT PART OF EES KIT P/N C5136350 | 1 |
| 5 | PAOZZ | 96906 | MS21044C3 | NUT, SELF-LOCKING, HEX, PART OF EES KIT P/N C5136350 | 2 |
| 6 | PAOZZ | 57958 | C5136341 | SAFETY LANYARD, PART OF EES KIT P/N C5136350 | 1 |
| 7 | XAOZZ | 57958 | C5135948-1 | .CLIP, LANYARD | 1 |
| 8 | XAOZZ | 96906 | MS51844-62 | .SWAGING SLEEVE, WIRE | 2 |
| 9 | XAOZZ | 81349 | M83420/2-002 | .ROPE, WIRE | V |
| 10 | XAOZZ | 81349 | M43436/1-3 | .BAND MARKER | 1 |
| 11 | XAOZZ | 39428 | 3906T12 | .HOOK DRAWBAR CHAIN | 1 |

END OF FIGURE

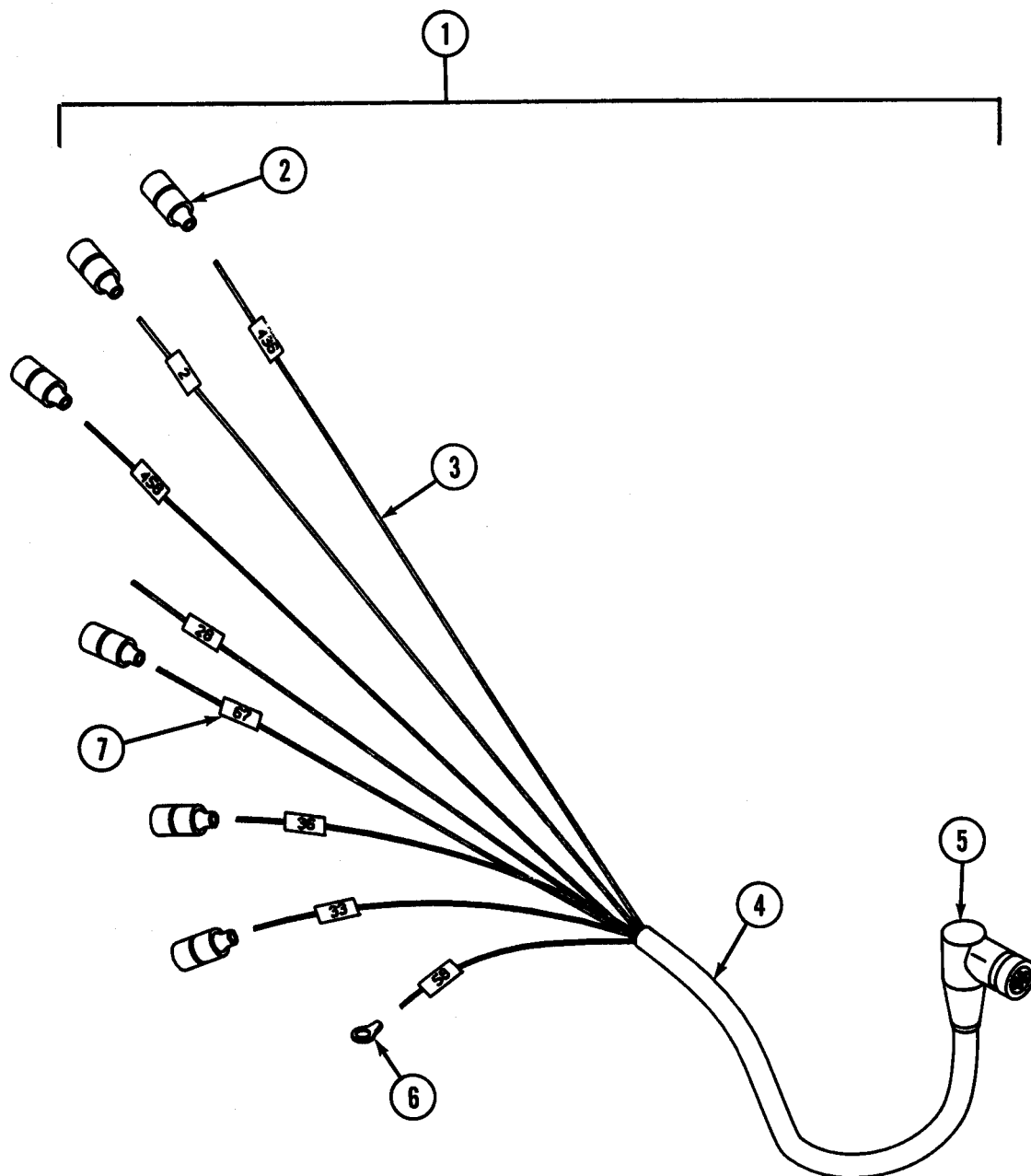


Figure 3. EES Kit, Cable Assembly W66

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|-------------|-----------------------|---|------------|
| GROUP 3307: EES KIT FIG. 3 CABLE ASSEMBLY W66 | | | | | |
| 1 | PAOOO | 57958 | C5136366 | CABLE ASSEMBLY W66, PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 96906 | MS27144-2 | .CONNECTOR, PLUG, ELEC | 6 |
| 3 | XAOZZ | 81349 | M13486-1-3 | .WIRE, ELECTRICAL | V |
| 4 | XAOZZ | 81349 | M23053/5-109-0 | .SLEEVING, INSULATION | V |
| 5 | XAOZZ | 96906 | MS3476W16-8S | .CONNECTOR, PLUG | 1 |
| 6 | PAOZZ | 59730 | TG11 | .TERMINAL LUG | 1 |
| 7 | XAOZZ | 06090 | TMS-WM-00/4 | .INSULATION SLEEVING | V |
| END OF FIGURE | | | | | |

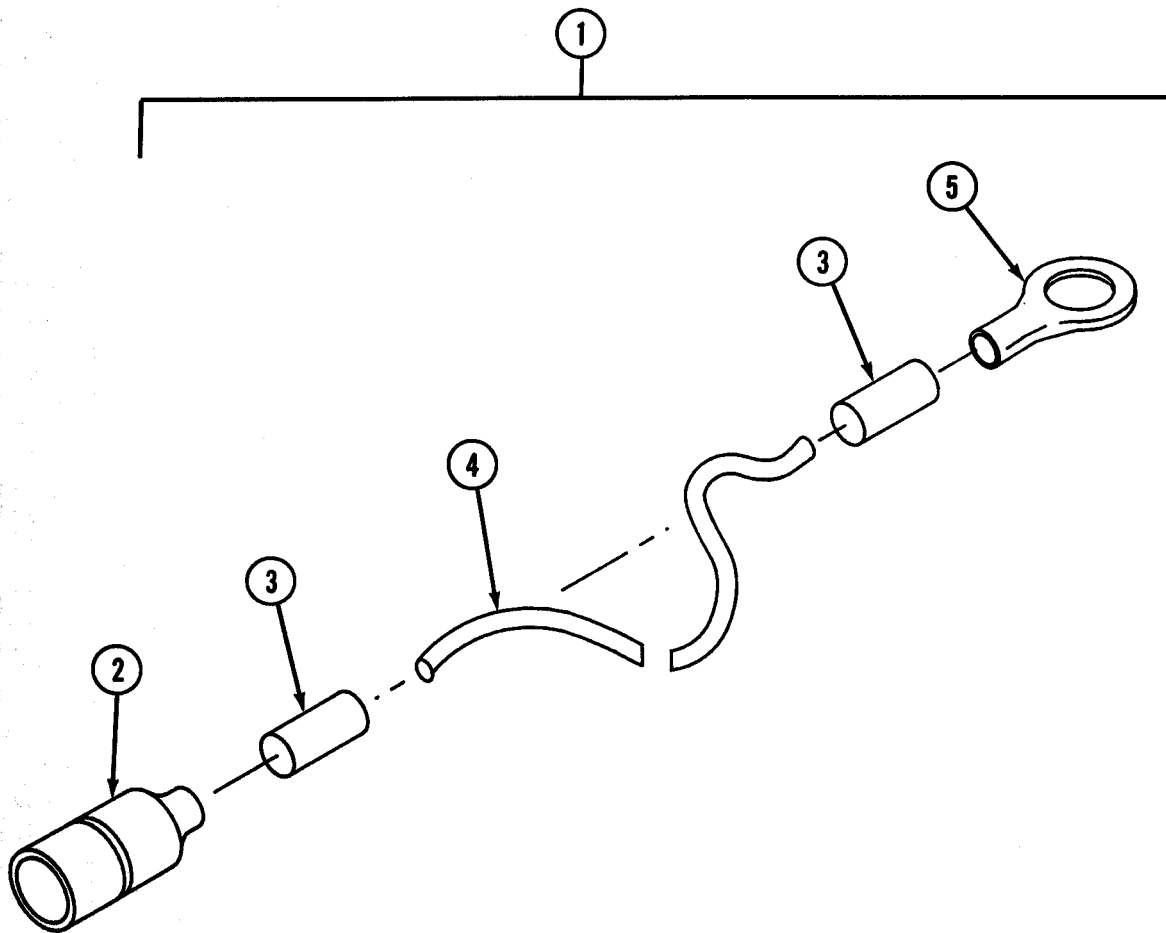


Figure 4. EES Kit, Ground Wire Assembly, A/C

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|-------------|-----------------------|---|------------|
| GROUP 3307: EES KIT FIG. 4 GROUND WIRE ASSEMBLY, A/C | | | | | |
| 1 | PAOOO | 57958 | C5136367 | GROUND WIRE, A/C, PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 96906 | MS27142-2 | .CONNECTOR, PLUG | 1 |
| 3 | XAOZZ | 06090 | TMS-WM-00/4 | .INSULATION SLEEVING | V |
| 4 | XAOZZ | 81349 | M13486-1-5 | .WIRE, ELECTRICAL | 5 |
| 5 | PAOZZ | 59730 | TG11 | .TERMINAL LUG | 1 |
| END OF FIGURE | | | | | |

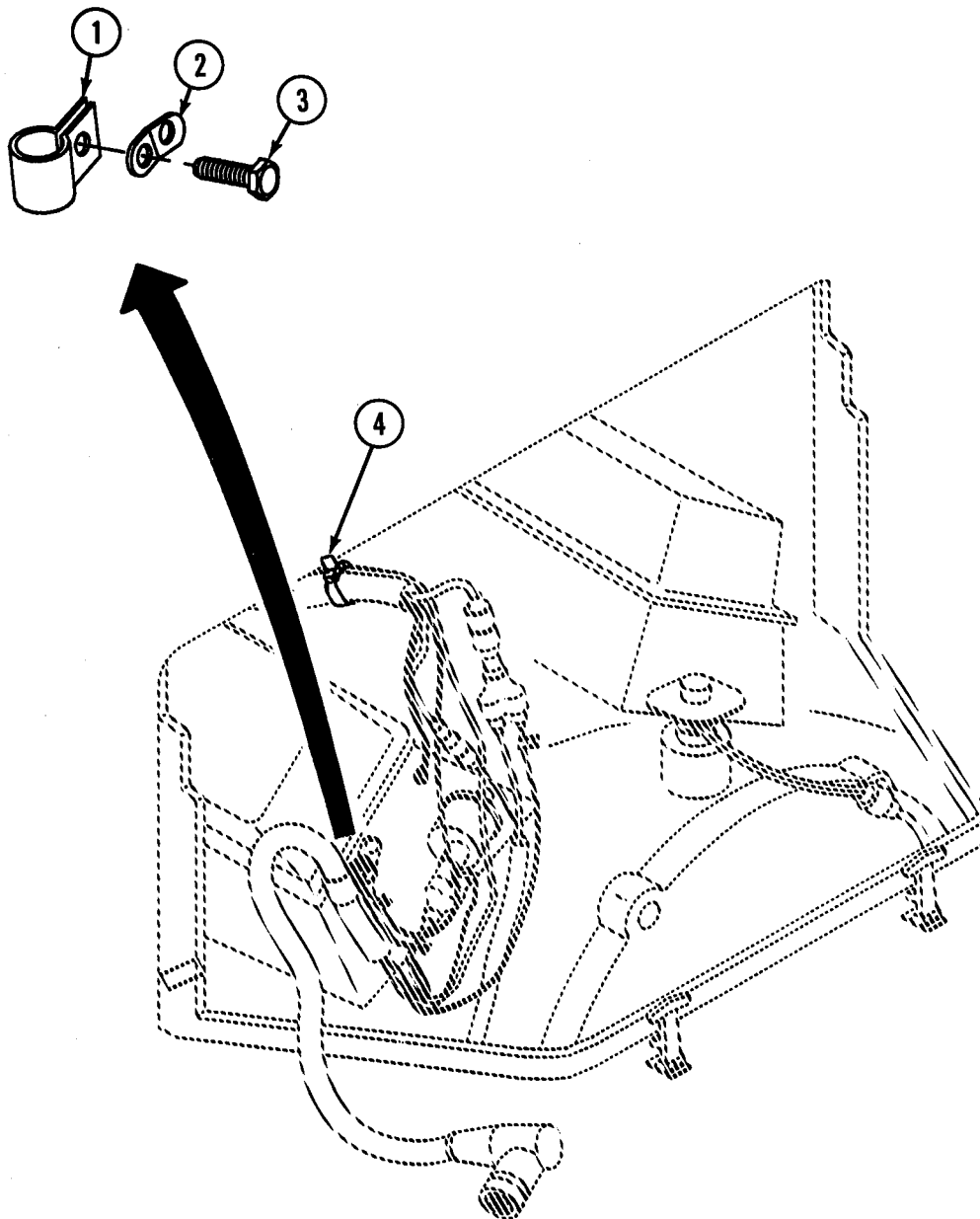


Figure 5. EES Kit, Ground Attachment

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|---|--------------------|---------------------|-----------------------|---|------------|
| GROUP 3307: EES KIT FIG. 5 GROUND ATTACHMENT | | | | | |
| 1 | PAOZZ | 96906 | MS21333-123 | CLAMP, LOOP, PART OF EES KIT P/N C5136350 | 1 |
| 2 | PFOZZ | 57958 | C5136342 | BRACKET, ANGLE, PART OF EES KIT P/N C5136350 | 1 |
| 3 | PAOZZ | 80204 | B18231A10020NF | SCREW, CAP, HEXAGON, PART OF EES KIT P/N C5136350 | 1 |
| 4 | PAOZZ | 96906 | MS3367-2-0 | STRAP, TIEDOWN, ELECT, PART OF EES KIT P/N C5136350 | V |
| END OF FIGURE | | | | | |

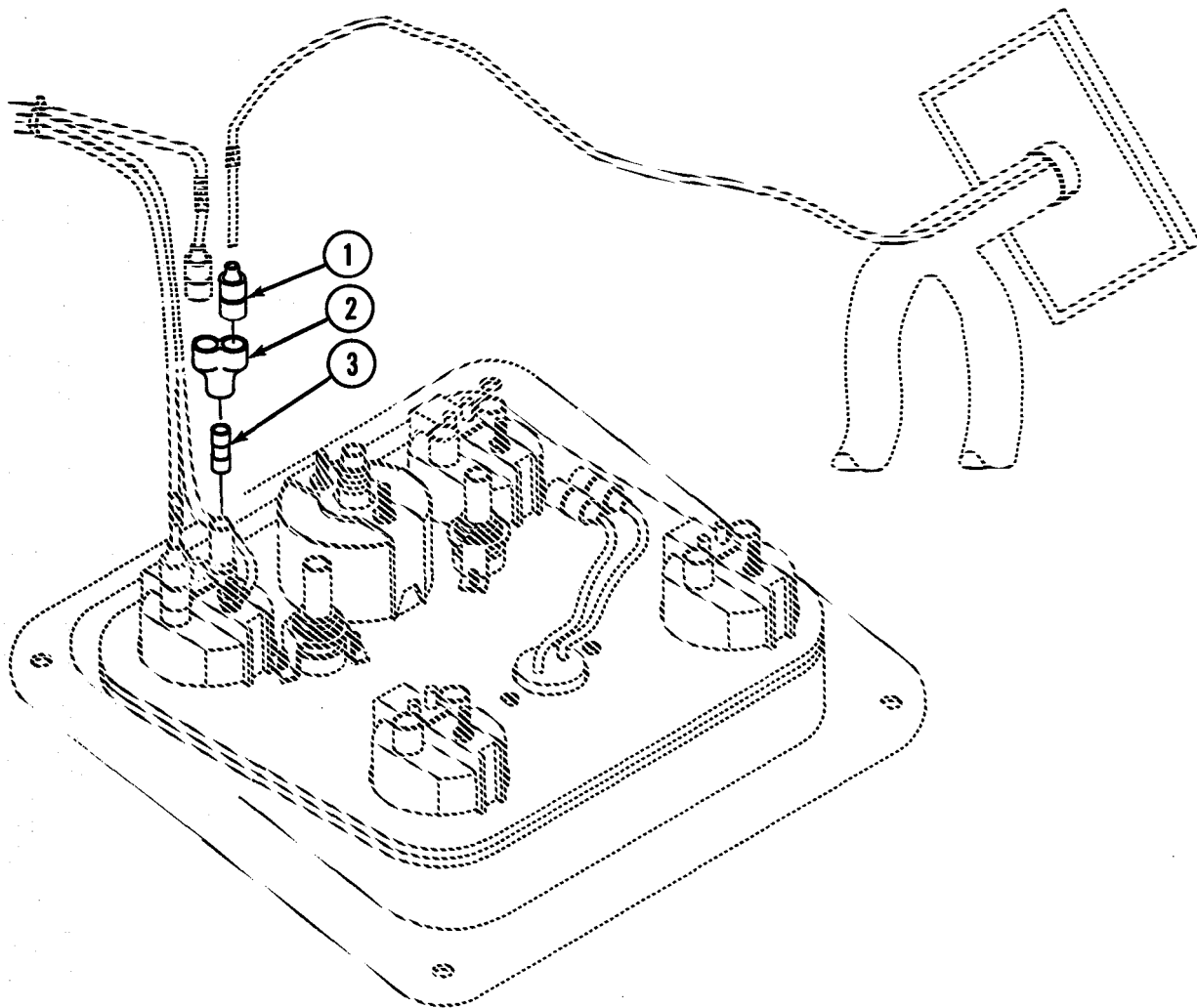


Figure 6. EES Kit, Fuel Gage Wiring

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|-------------|-----------------------|---|------------|
| GROUP 3307: EES KIT FIG. 6 FUEL GAGE WIRING | | | | | |
| 1 | PAOZZ | 96906 | MS27144-2 | CONNECTOR, PLUG, ELEC, PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 96906 | MS27147-1 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
| 3 | PAOZZ | 19207 | 8741492 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
| END OF FIGURE | | | | | |

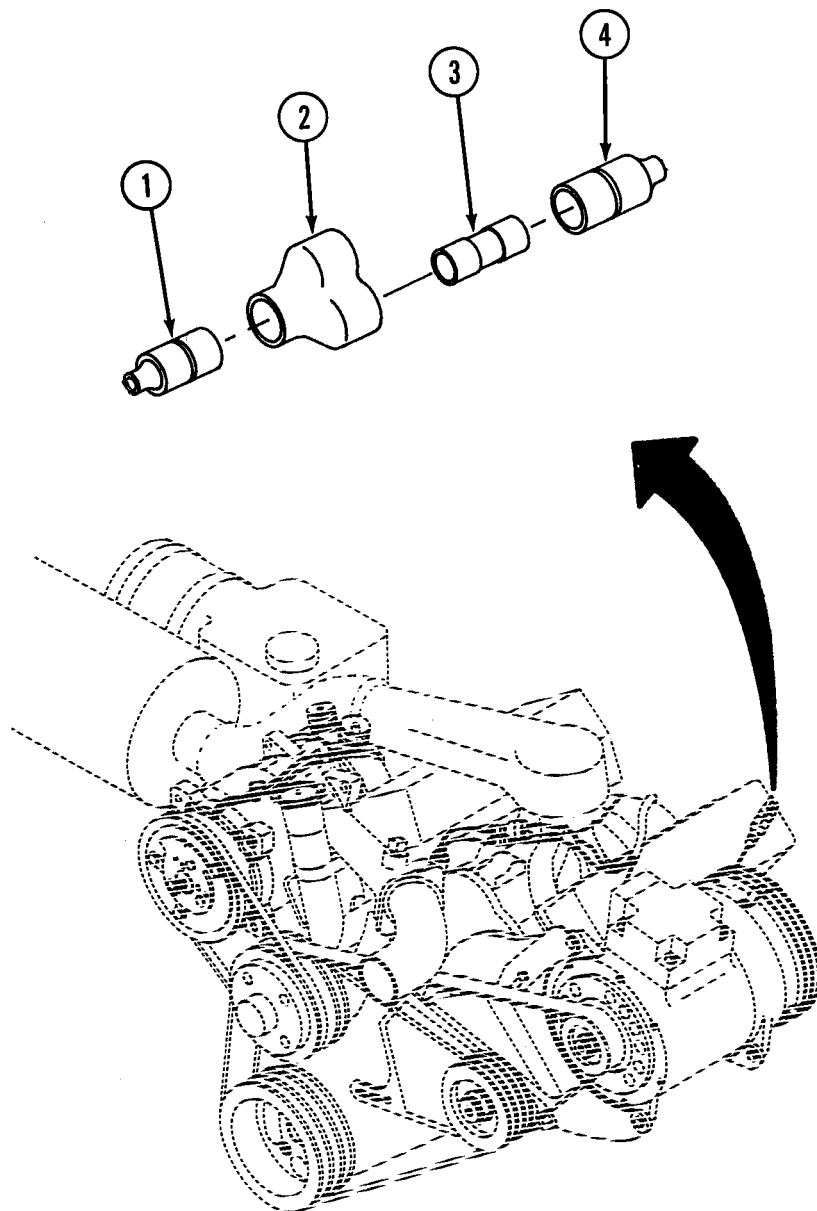


Figure 7. EES Kit, Alternator Wiring

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|---|--------------------|---------------------|-----------------------|--|------------|
| GROUP 3307: EES KIT FIG. 7 ALTERNATOR WIRING | | | | | |
| 1 | PAOZZ | 96906 | MS27144-1 | CONNECTOR, PLUG, ELEC, PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 96906 | MS27147-1 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
| 3 | PAOZZ | 19207 | 8741492 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
| 4 | PAOZZ | 96906 | MS27142-2 | CONNECTOR, PLUG, ELEC, PART OF EES KIT P/N C5136350 | 1 |
| END OF FIGURE | | | | | |

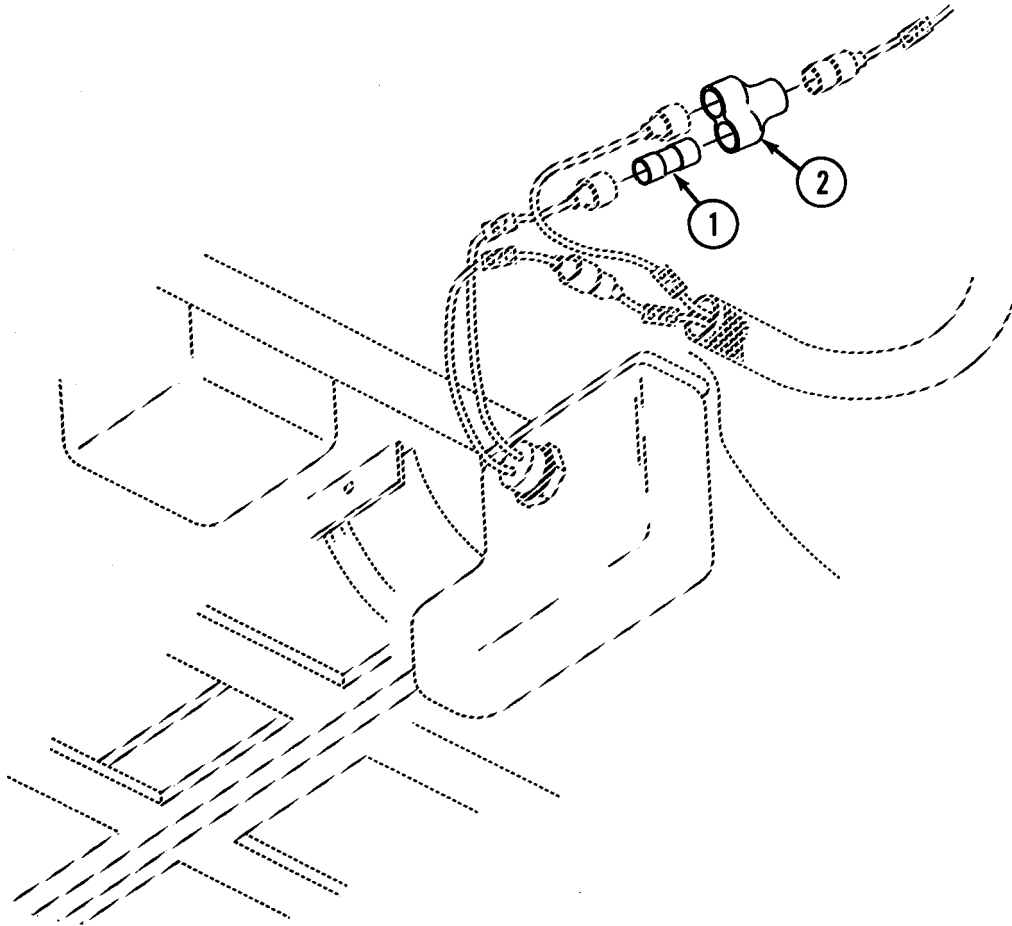


Figure 8. EES Kit, Parking Brake Wiring

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|---------------------|-------------------------------|---|------------|
| GROUP 3307: EES KIT FIG. 8 PARKING BRAKE WIRING | | | | | |
| 1 | PAOZZ | 19207 | 8741492 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 96906 | MS27147-1 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
| END OF FIGURE | | | | | |

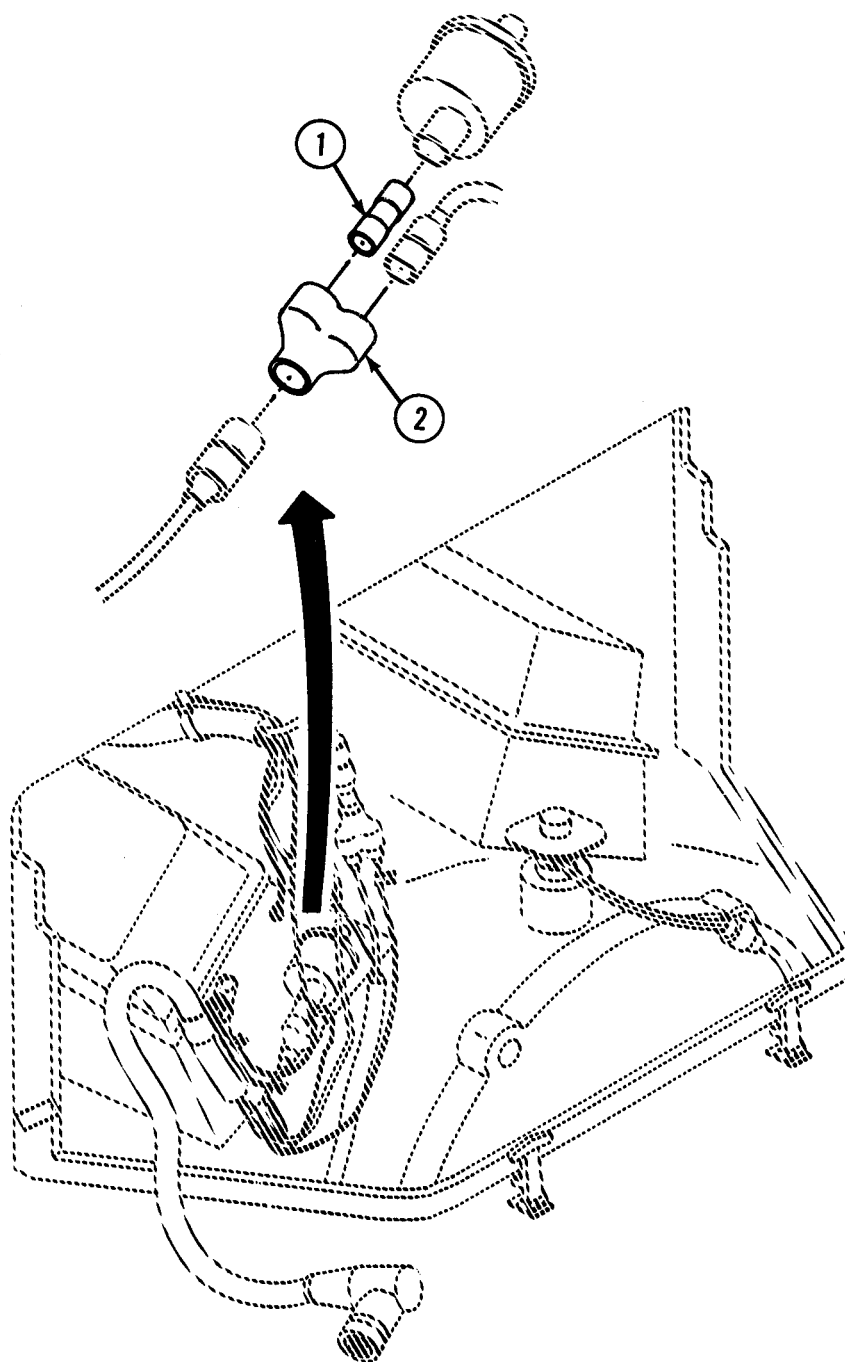


Figure 9. EES Kit, Oil Pressure Wiring

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
|-------------------|--------------------|-------------|-----------------------|--|------------|

GROUP 3307: EES KIT
FIG. 9 OIL PRESSURE WIRING

| | | | | | |
|---|-------|-------|---------|---|---|
| 1 | PAOZZ | 19207 | 8741492 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
|---|-------|-------|---------|---|---|

| | | | | | |
|---|-------|-------|-----------|---|---|
| 2 | PAOZZ | 96906 | MS27147-1 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
|---|-------|-------|-----------|---|---|

END OF FIGURE

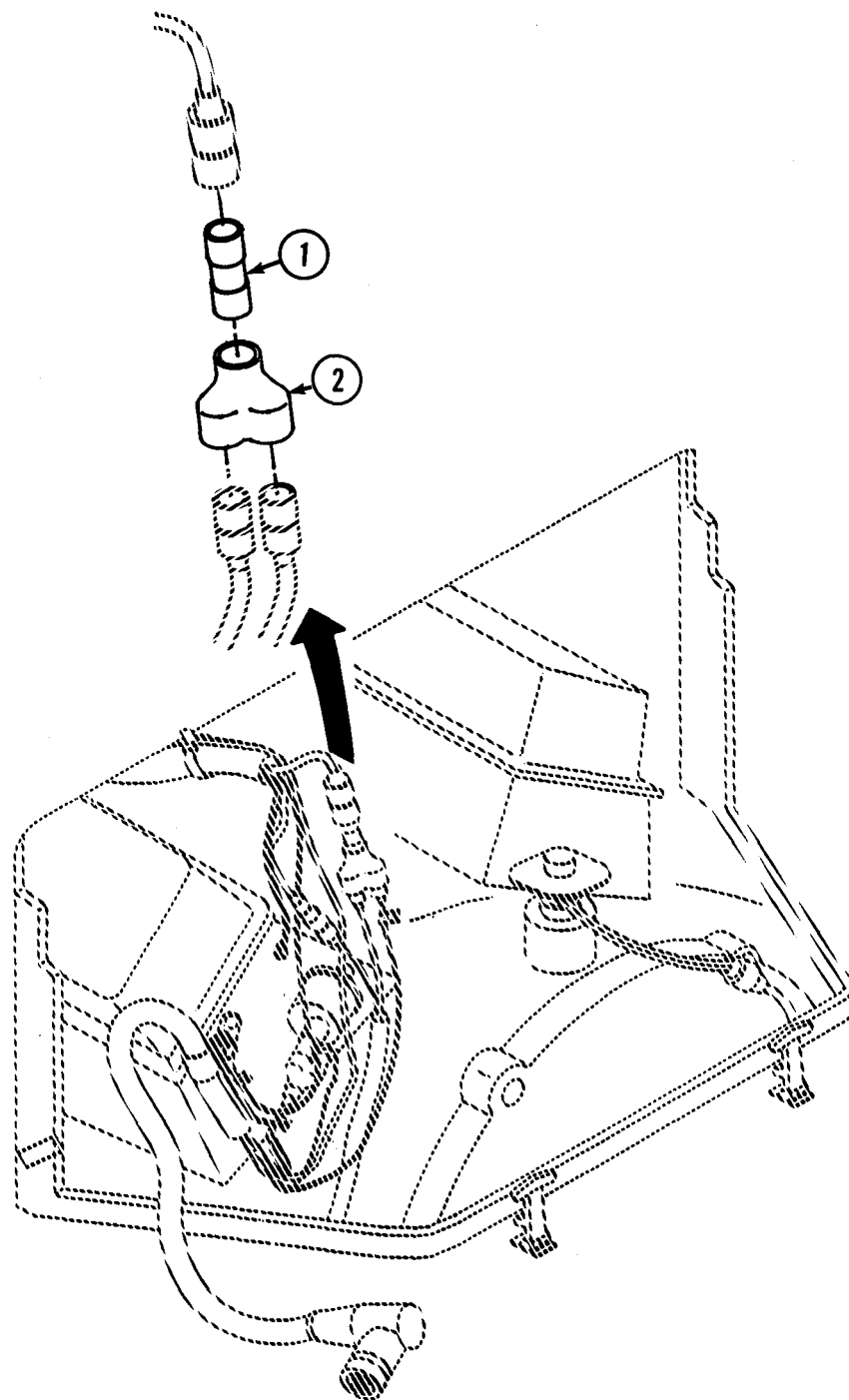


Figure 10. EES Kit, Engine Temperature Wiring

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
|-------------------|--------------------|-------------|-----------------------|--|------------|

GROUP 3307: EES KIT
FIG. 10 ENGINE TEMPERATURE
WIRING

| | | | | | |
|---|-------|-------|-----------|---|---|
| 1 | PAOZZ | 19207 | 8741492 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 96906 | MS27147-1 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |

END OF FIGURE

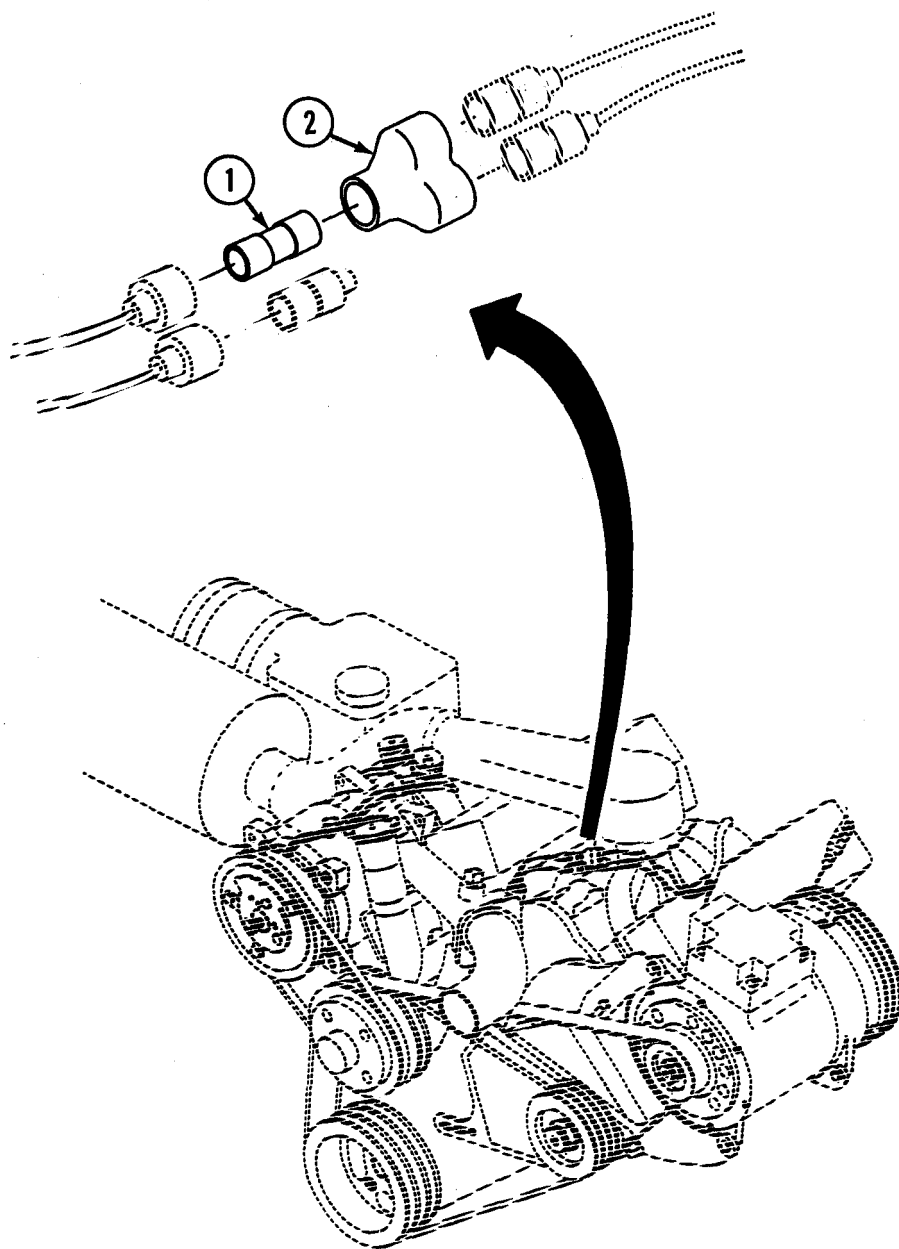


Figure 11. EES Kit, 28V Wiring

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
|-------------------|--------------------|-------------|-----------------------|--|------------|

GROUP 3307: EES KIT
FIG. 11 28V WIRING

| | | | | | |
|---|-------|-------|---------|---|---|
| 1 | PAOZZ | 19207 | 8741492 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
|---|-------|-------|---------|---|---|

| | | | | | |
|---|-------|-------|-----------|---|---|
| 2 | PAOZZ | 96906 | MS27147-1 | ADAPTER, CONNECTOR, PART OF EES KIT P/N C5136350 | 1 |
|---|-------|-------|-----------|---|---|

END OF FIGURE

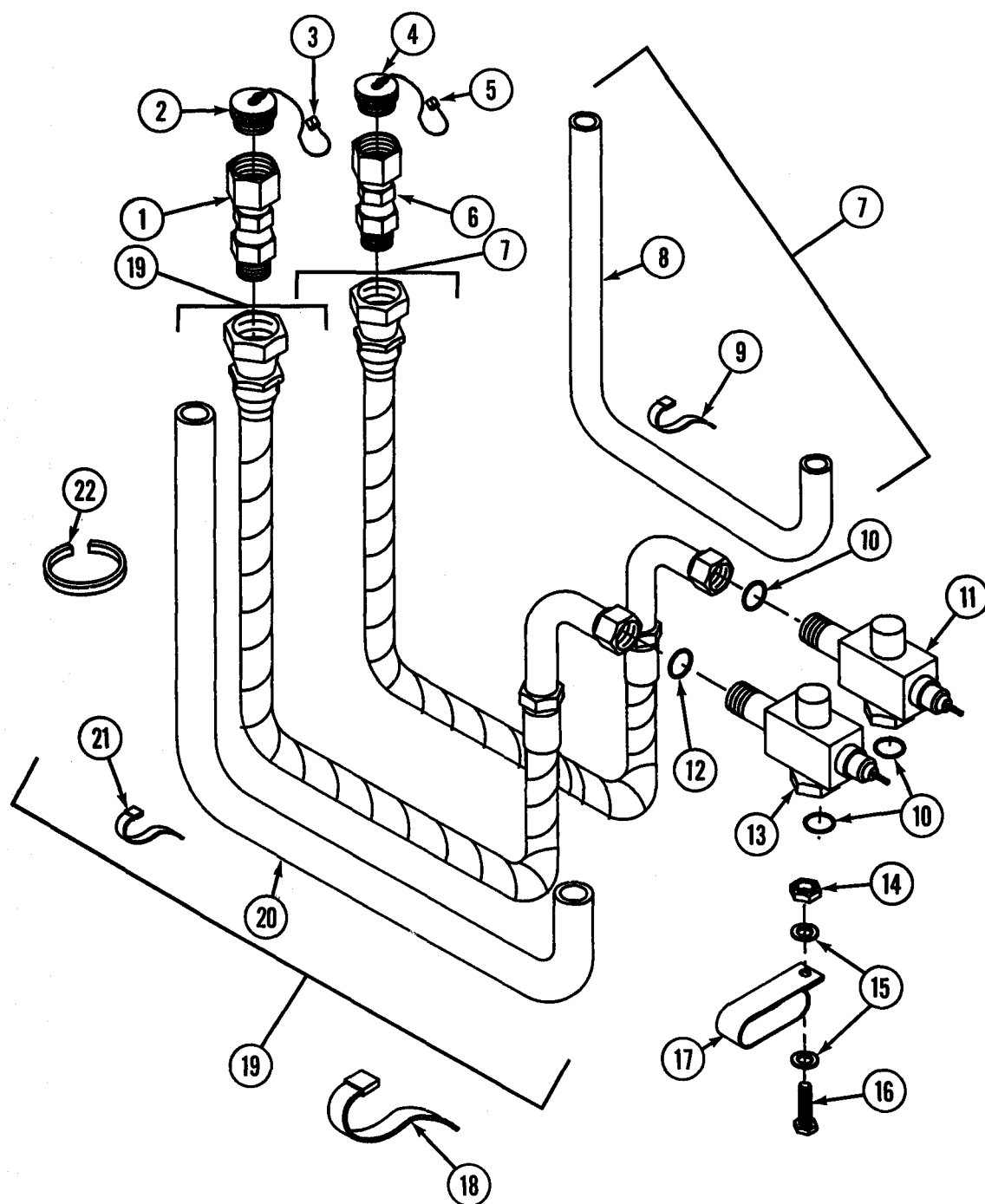


Figure 12. EES Kit, Freon Lines

SECTION II.

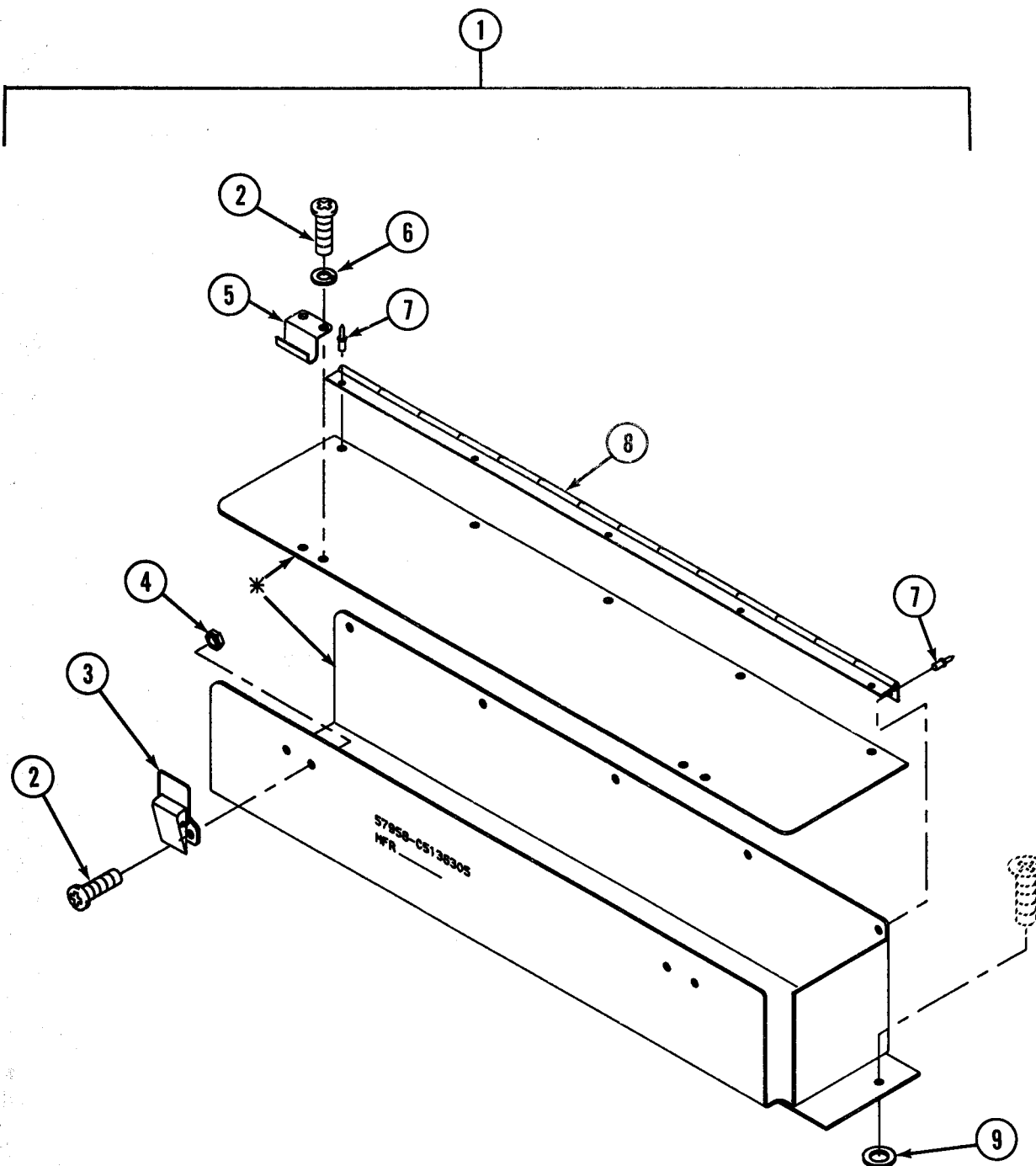
TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
| | | | | GROUP 3307: EES KIT FIG. 12 FREON LINES | |
| 1 | PFFZZ | 57958 | C5136153-5 | QUICK COUPLE ASSY, FEMALE, .625 | 1 |
| 2 | PFFZZ | 57958 | C5136163 | DUST PLUG ASSY, .625 | 1 |
| 3 | PAFZZ | 96906 | MS51844-62 | .SLEEVE, SWAGING, WIRE | 2 |
| 4 | PFFZZ | 57958 | C5136162 | DUST PLUG ASSY, .500 | 1 |
| 5 | PAFZZ | 96906 | MS51844-62 | .SLEEVE, SWAGING, WIRE | 2 |
| 6 | PFFZZ | 57958 | C5136152-5 | QUICK COUPLE ASSY, FEMALE, .500 | 1 |
| 7 | PBFZZ | 57958 | C5136360 | HOSE ASSY, A/C, DISCHARGE | 1 |
| 8 | PAFZZ | 03938 | 818 | INSULATION SLEEVING THERMAL | V |
| 9 | PAFZZ | 96906 | MS3367-5-9 | .STRAP, TIEDOWN | 6 |
| 10 | PAFZZ | 19207 | 12341984-2 | O RING, A/C, DISCHARGE | 3 |
| 11 | PAFZZ | 19207 | 12341971-1 | VALVE ASSY, A/C, DISCHARGE | 1 |
| 12 | PAFZZ | 19207 | 12341984-4 | O RING, A/C, SUCTION | 1 |
| 13 | PAFZZ | 19207 | 12341971-2 | VALVE ASSY, A/C, SUCTION | 1 |
| 14 | PAFZZ | 96906 | MS51943-31 | NUT, HEX, SELF-LOCKING | 1 |
| 15 | PAFZZ | 96906 | MS51412-4 | WASHER, FLAT | 2 |
| 16 | PAFZZ | 96906 | MS90725-6 | SCREW, CAP, HEX HD | 1 |
| 17 | PAFZZ | 19207 | 12341730 | CLAMP, LOOP | 1 |
| 18 | PAFZZ | 96906 | MS3367-3-0 | STRAP, TIEDOWN | V |

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
| 19 | PBFZZ | 57958 | C5136361 | HOSE, ASSY, A/C, SUCTION 1 | |
| 20 | PAFZZ | 03938 | 818 | .INSULATION THERMAL | V |
| 21 | PAFZZ | 96906 | MS3367-1-9 | .STRAP TIEDOWN | 6 |
| 22 | PAFZZ | 19207 | 12339902-7 | PROTECTOR | 1 |
| END OF FIGURE | | | | | |



* Part of item 1.

Figure 13. EES Kit, Floorboard and Storage Box

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|-------------|-----------------------|--|------------|
| GROUP 3307: EES KIT FIG. 13 FLOORBOARD AND STORAGE BOX | | | | | |
| 1 | PFOOO | 57958 | C5136310 | STORAGE BOX ASSY | 1 |
| 2 | PAOZZ | 96906 | MS51957-28 | .SCREW, MACHINE | 8 |
| 3 | PAOZZ | 72794 | TL803BSS | .CATCH, CLAMPING | 2 |
| 4 | PAOZZ | 96906 | MS21044C06 | .NUT, HEX, SELF-LOCKING | 4 |
| 5 | PFOZZ | 72794 | TL800-9SS | .STRIKE | 2 |
| 6 | PAOZZ | 96906 | MS35338-136 | .WASHER, LOCK | 4 |
| 7 | PAOZZ | 19738 | 1601-0619 | .RIVET, DOME HD | 10 |
| 8 | MOOZZ | 57958 | C5136309 | .HINGE, STORAGE BOX MAKE FROM HINGE MS35825-11A, 22.0 IN LONG | 1 |
| 9 | PAOZZ | 96906 | MS15795-810 | WASHER, FL | 2 |

END OF FIGURE

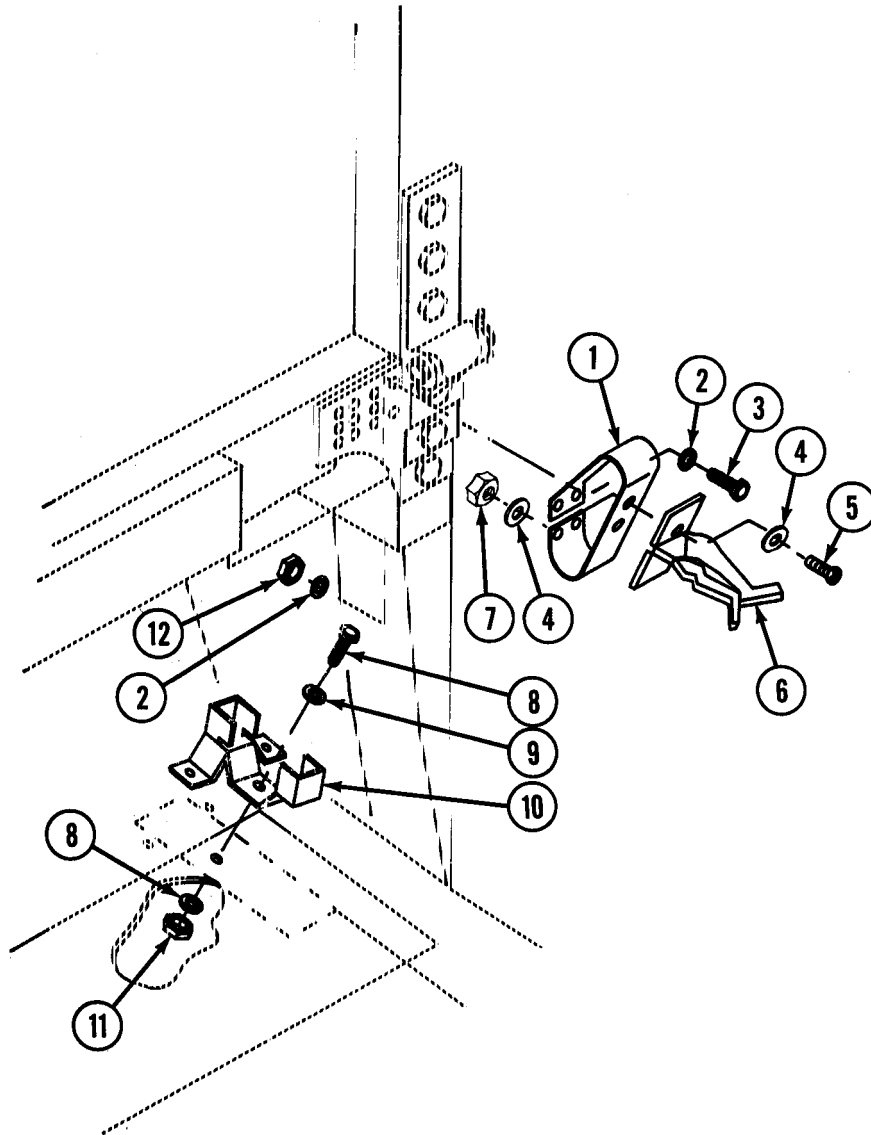


Figure 14. EES Kit, M16 Rifle Mount

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|-------------|-----------------------|--|------------|
| GROUP 3307: EES KIT FIG. 14 M16 RIFLE MOUNT | | | | | |
| 1 | PAOZZ | 19207 | 12340157 | BRACKET, M16 RIFLE MOUNT | 2 |
| 2 | PAOZZ | 96906 | MS27183-10 | WASHER, FL | 8 |
| 3 | PAOZZ | 96906 | MS90725-8 | SCREW, CAP, HEX HD | 4 |
| 4 | PAOZZ | 11862 | 9423534 | WASHER, FLAT | 8 |
| 5 | PAOZZ | 96906 | MS51957-47 | SCREW, MACHINE | 4 |
| 6 | PAOZZ | 19207 | 12340487 | CLAMP, RIFLE MOUNTING | 2 |
| 7 | PAOZZ | 80205 | NAS1022-N08 | NUT, HEX, SELF-LOCKING | 4 |
| 8 | PAOZZ | 96906 | MS90725-33 | BOLT, MACHINE | 6 |
| 9 | PAOZZ | 24617 | 2436162 | WASHER, FL | 12 |
| 10 | PAOZZ | 19207 | 12340142 | SUPPORT, RIFLE MOUNT M16 | 2 |
| 11 | PAOZZ | 96906 | MS51943-33 | NUT, SELF-LOCKING | 6 |
| 12 | PAOZZ | 96906 | MS51943-31 | NUT, HEX, SELF-LOCKING | 4 |
| END OF FIGURE | | | | | |

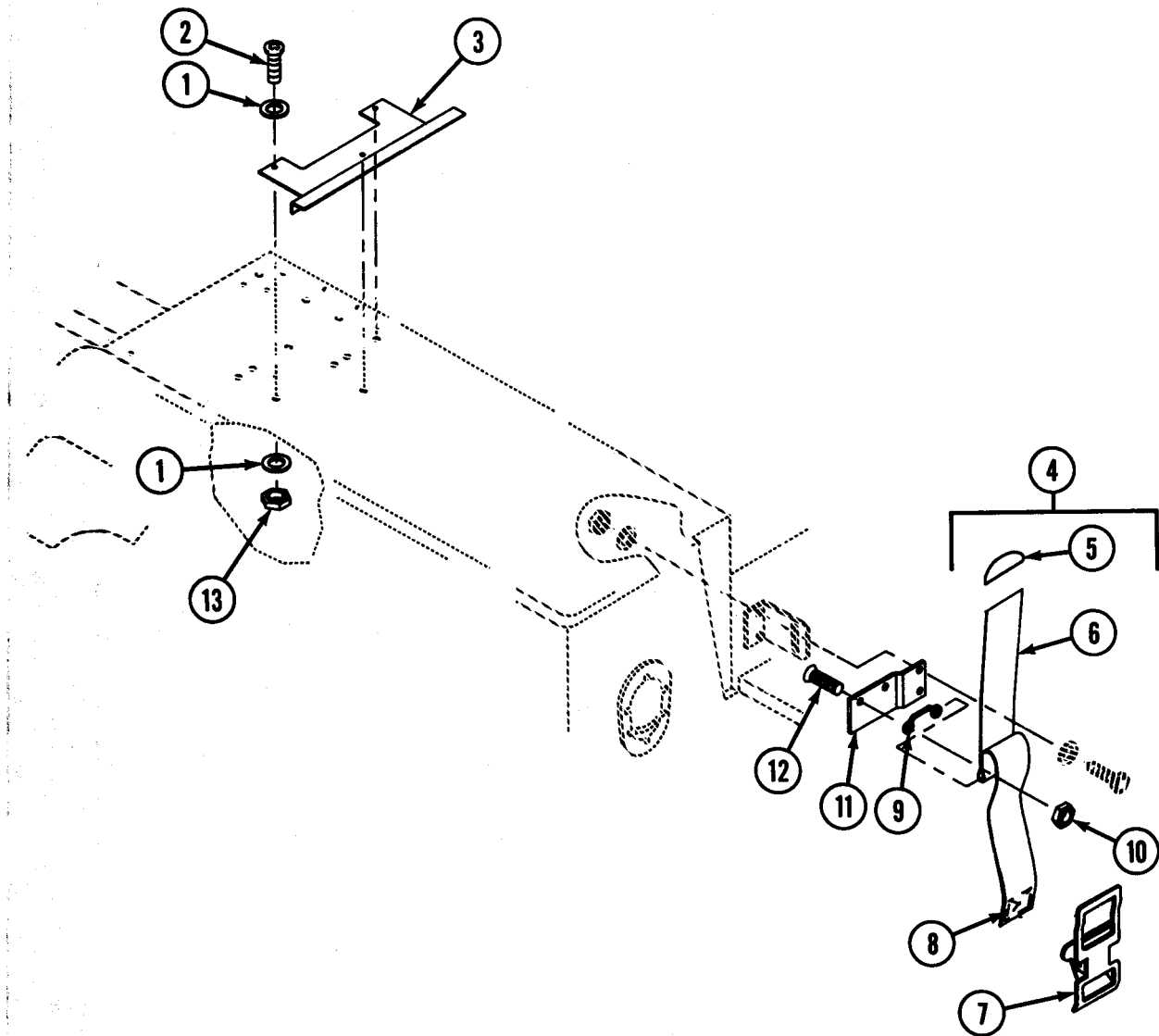


Figure 15. EES Kit, Ladder Mount

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|---|--------------------|-------------|--------------------------|---|------------|
| GROUP 3307: EES KIT FIG. 15 LADDER MOUNT | | | | | |
| 1 | PAOZZ | 96906 | MS15795-810 | WASHER, FL | 6 |
| 2 | PAOZZ | 96906 | MS51957-81 | SCREW, PAN HD, MACHINE | 3 |
| 3 | PFOZZ | 57958 | C5136373 | BRACKET, DOUBLE ANGLE | 1 |
| 4 | MFOZZ | 57958 | C5135967 | STRAP ASSY, LADDER MAKE FROM WEBBING 1 IN X 25 IN | 1 |
| 5 | PAFZZ | 76786 | 4106 | .CLIP, END, STRAP | 1 |
| 6 | PAFZZ | 81349 | MIL-W-530, TYIIA, CL4 | .WEBBING, TEXTILE (OLIVER DRAB NO. 7) | V |
| 7 | PAFZZ | 96906 | MS51929-2 | .BUCKLE | 1 |
| 8 | PAFZZ | 81349 | V-T-276, TYPE IIIB | .THREAD, COTTON, V-T-276, TYPE IIIB, 10/3 SHADE S-1, VAT GREEN 3 TREATED PER MIL-T-3530 TYPE 1, CLASS 1 | V |
| 9 | PAFZZ | 80063 | SC-C-539965 | .LOOP, FOOTMAN | 1 |
| 10 | PAOZZ | 96906 | MS21044C3 | NUT, HEX, SELF-LOCKING | 2 |
| 11 | PFOZZ | 57958 | C5136372 | BRACKET, DOUBLE ANGLE | 1 |
| 12 | PAOZZ | 96906 | MS51960-66 | SCREW, FL HD | 2 |
| 13 | PAOZZ | 96906 | MS51943-31 | NUT, HEX, SELF-LOCKING | 3 |
| END OF FIGURE | | | | | |

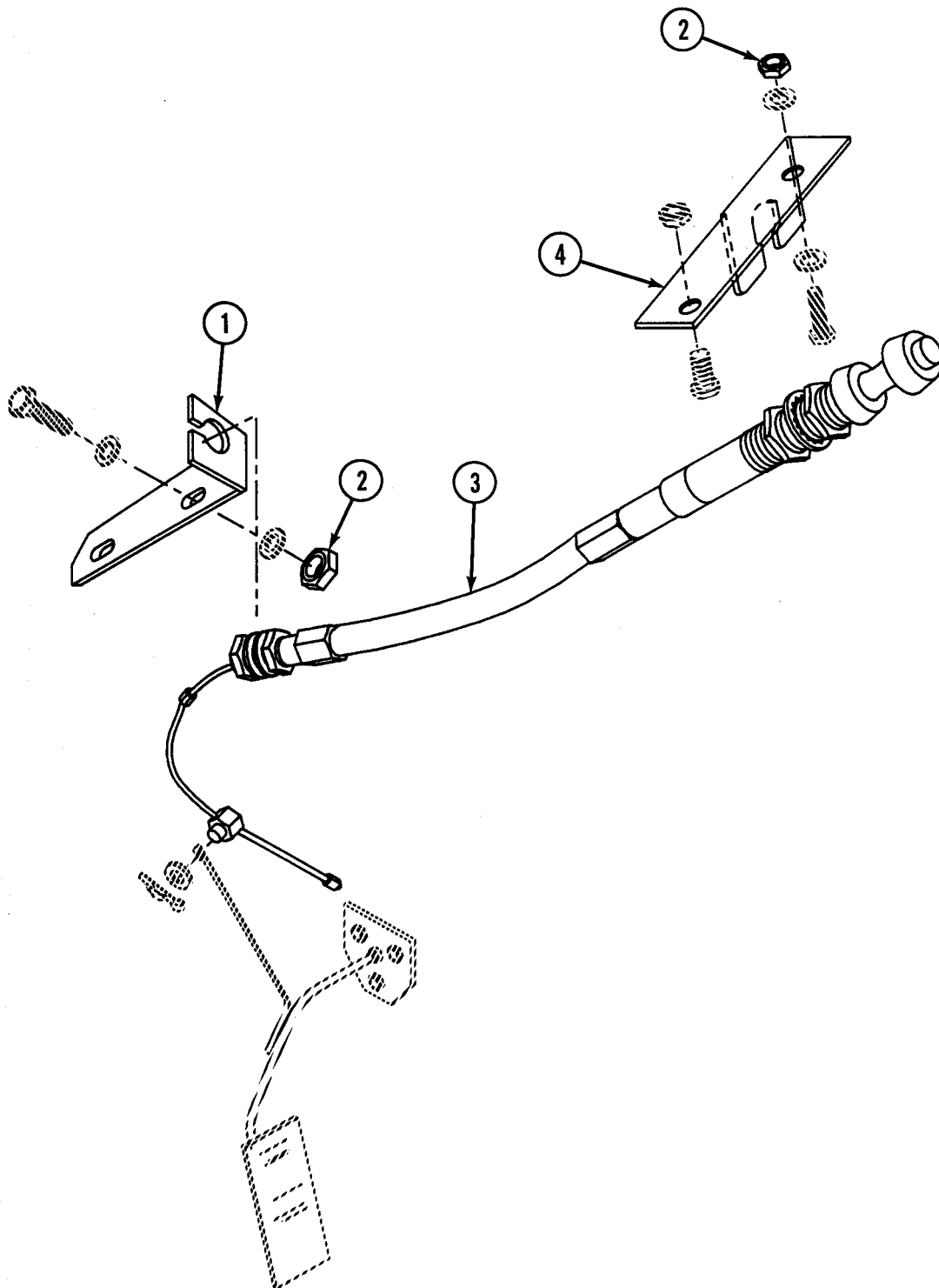


Figure 16. EES Kit, Hand Throttle Cable Assembly

SECTION II.

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|---------------------|-----------------------|--|------------|
| GROUP 3307: EES KIT FIG. 16 HAND THROTTLE CABLE ASSEMBLY | | | | | |
| 1 | PFOZZ | 57958 | C5136359 | BRACKET, THROTTLE CABLE END | 1 |
| 2 | PAOZZ | 96906 | MS17830-4C | NUT, HEX, SELF-LOCKING | 3 |
| 3 | PAOZZ | 60602 | 35825 | CABLE ASSY, HAND THROTTLE | 1 |
| 4 | PFOZZ | 57958 | C5136357 | BRACKET, HAND THROTTLE | 1 |
| END OF FIGURE | | | | | |

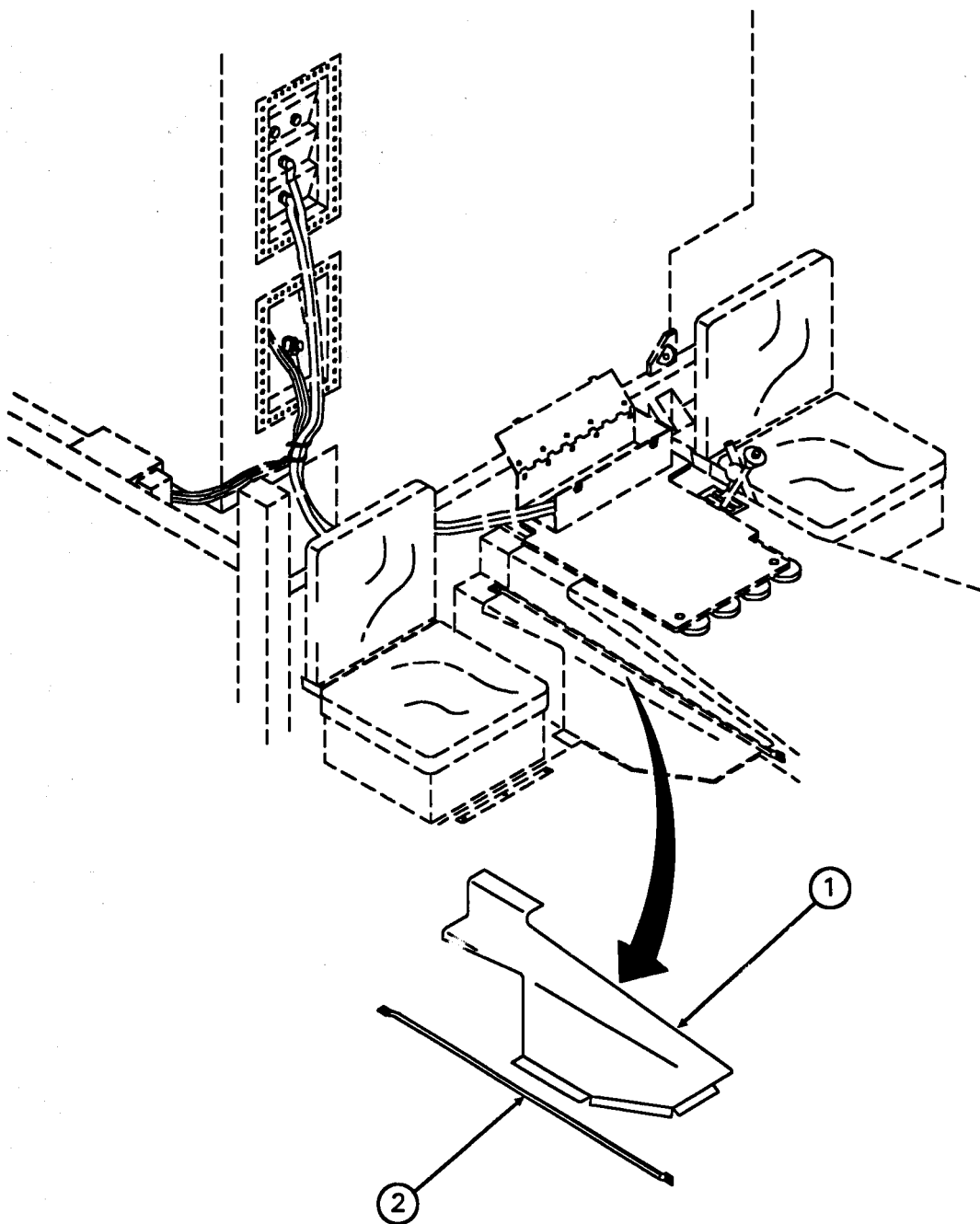


Figure 17. R.H. Tunnel Insulation Retainer

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
|-------------------|--------------------|-------------|-----------------------|--|------------|

GROUP 3307: EES KIT
FIG. 17 R. H. TUNNEL
INSULATION BLANKET AND
RETAINER

| | | | | | |
|---|-------|-------|------------|---------------------------------------|---|
| 1 | PFOZZ | 19207 | 12339041 | INSULATION BLANKET | 1 |
| 2 | PFOZZ | 19207 | 12339018-1 | RETAINER, INSULATION TUNNEL, R. H. | 1 |

END OF FIGURE

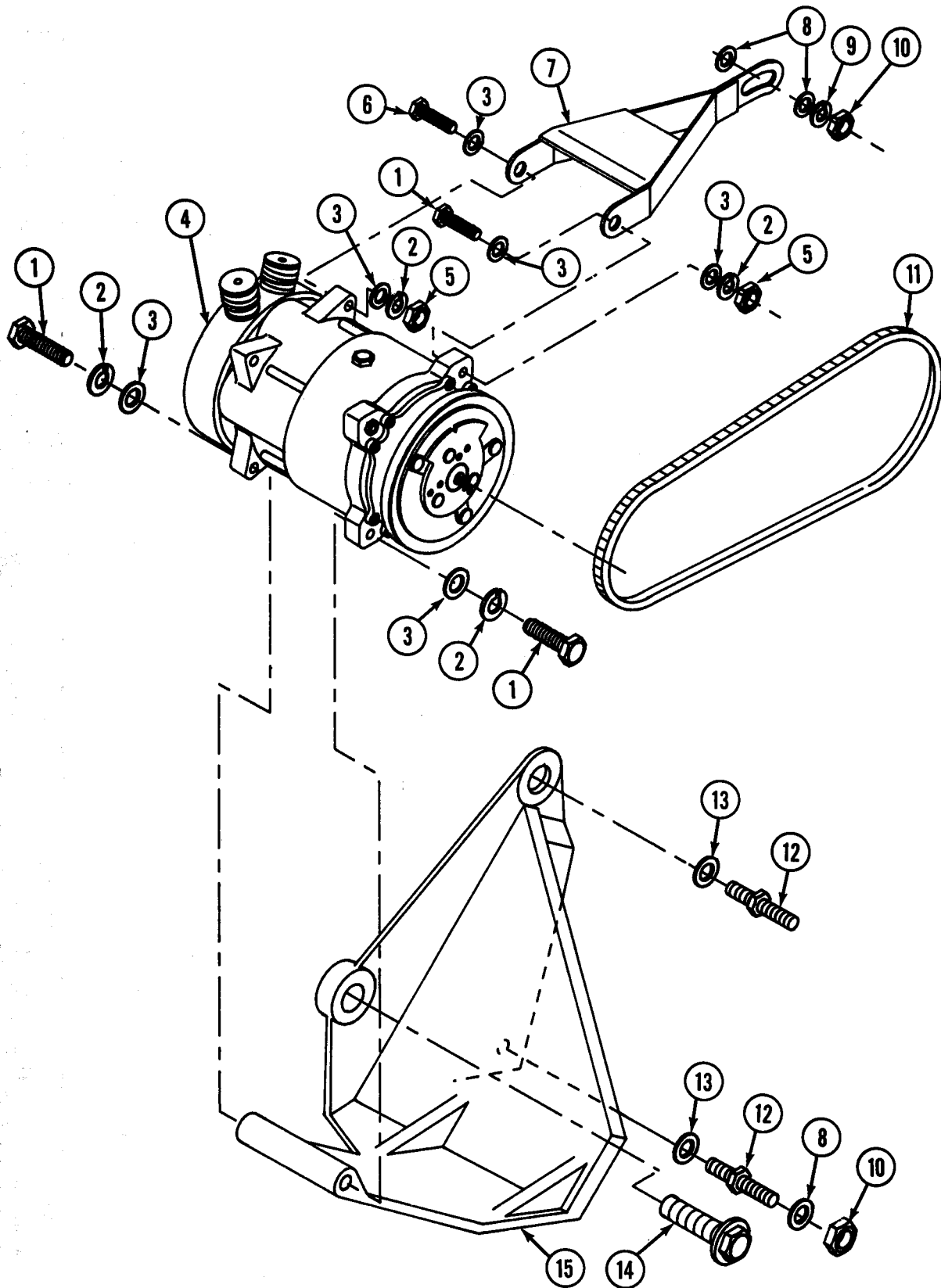


Figure 18. EES Kit, Compressor Assembly, A/C

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|-------------|-----------------------|---|------------|
| GROUP 3307: EES KIT FIG. 18 COMPRESSOR ASSY- A/C | | | | | |
| 1 | PAFZZ | 96906 | MS90725-64 | SCREW, CAP, HEX HD PART OF EES KIT P/N C5136350 | 3 |
| 2 | PAFZZ | 96906 | MS35338-46 | WASHER, LOCK PART OF EES KIT P/N C5136350 | 4 |
| 3 | PAFZZ | 96906 | MS27183-13 | WASHER, FLAT PART OF EES KIT P/N C5136350 | 6 |
| 4 | PAFFF | 19207 | 12340661 | COMPRESSOR ASSY, A/C PART OF EES KIT P/N C5136350 | 1 |
| 5 | PAFZZ | 96906 | MS51943-35 | NUT, HEX, SELF-LOCKING PART OF EES KIT P/N C5136350 | 2 |
| 6 | PAFZZ | 96906 | MS90725-66 | SCREW, CAP, HEX HD PART OF EES KIT P/N C5136350 | 1 |
| 7 | PAFZZ | 19207 | 12341599 | BRACKET ASSY, MOUNTING PART OF EES KIT P/N C5136350 | 1 |
| 8 | PAFZZ | 11862 | 11502474 | WASHER, FLAT PART OF EES KIT P/N C5136350 | 3 |
| 9 | PAFZZ | 11862 | 11500207 | WASHER, LOCK PART OF EES KIT P/N C5136350 | 1 |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|---|------------|
| 10 | PAFZZ | K1076 | 9145-105-00B | NUT, PLAIN HEXAGON PART OF EES KIT P/N C5136350 | 2 |
| 11 | PAFZZ | 19207 | 12339359-11 | V-BELT, AIR COMPRESSOR PART OF EES KIT P/N C5136350 | 1 |
| 12 | PAFZZ | 19207 | 12339406-2 | STUD, SUPPORT BRACKET, M10 PART OF EES KIT P/N C5136350 | 2 |
| 13 | PAFZZ | 24617 | 11500324 | WASHER, FLAT PART OF EES KIT P/N C5136350 | 2 |
| 14 | PAFZZ | 24617 | 11502788 | BOLT, SHOULDER PART OF EES KIT P/N C5136350 | 1 |
| 15 | PAFZZ | 19207 | 12339906 | BRACKET, MOUNTING PART OF EES KIT P/N C5136350 | 1 |

END OF FIGURE

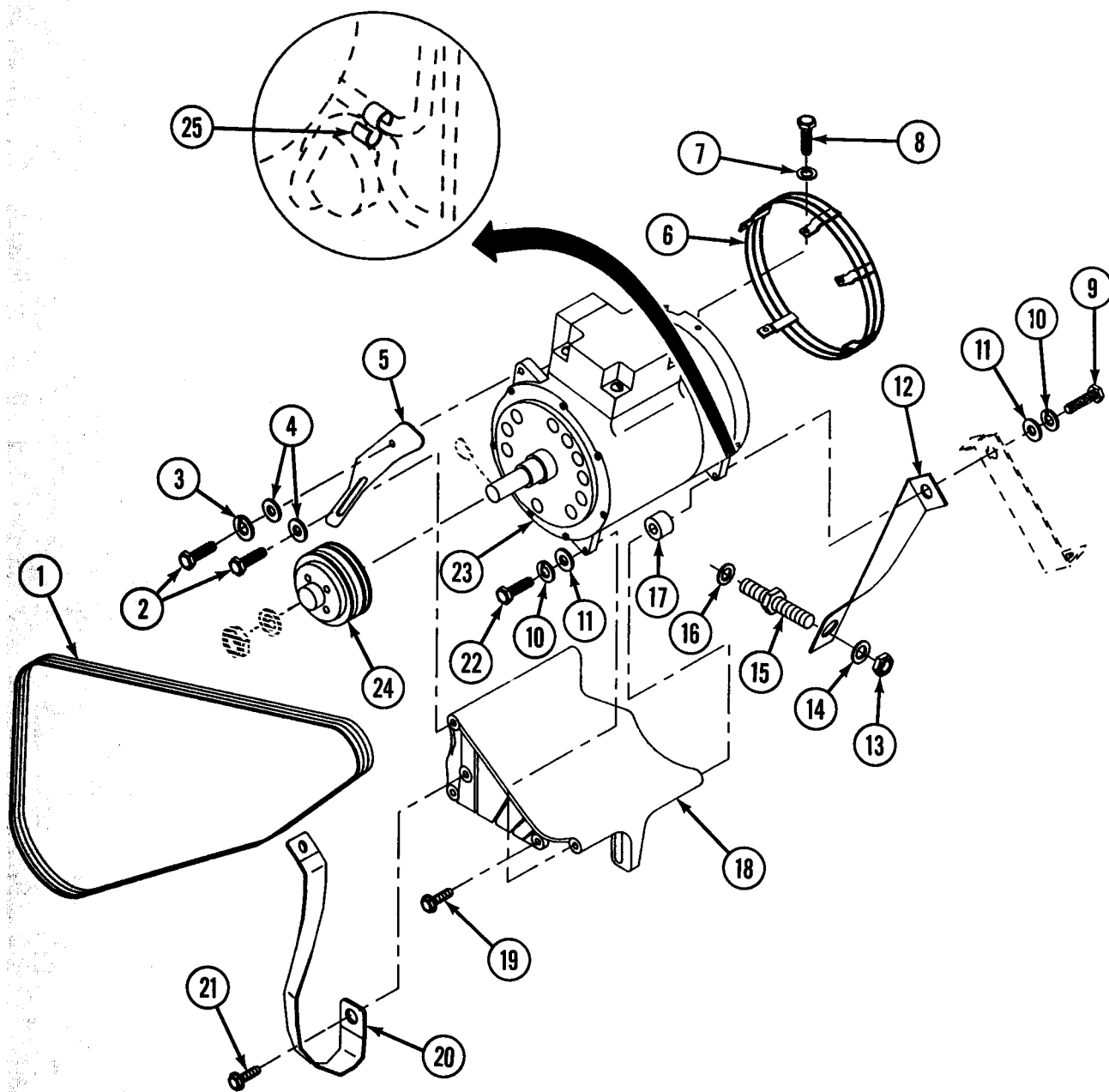


Figure 19. EES Kit, 200 Amp Alternator

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|---|--------------------|---------------------|-----------------------|---|------------|
| GROUP 3307: EES KIT FIG. 19 200 AMP ALTERNATOR | | | | | |
| 1 | PAOZZ | 19207 | 12339359-18 | BELT, V, MATCHED SET PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 96906 | MS90728-60 | SCREW, CAP, HEX PART OF EES KIT P/N C5136350 | 2 |
| 3 | PAOZZ | 96906 | MS35338-46 | WASHER, LOCK PART OF EES KIT P/N C5136350 | 1 |
| 4 | PAOZZ | 96906 | MS27183-13 | WASHER, FLAT PART OF EES KIT C5136350 | 2 |
| 5 | PAOZZ | 19207 | 12340057 | BRACKET, ALTERNATOR ADJUST PART OF EES KIT P/N C5136350 | 1 |
| 6 | PAOZZ | 19207 | 12341809 | GUARD, MECHANICAL DR PART OF EES KIT P/N C5136350 | 1 |
| 7 | PAOZZ | 96906 | MS51412-2 | WASHER, FLAT PART OF EES KIT P/N C5136350 | 5 |
| 8 | PAOZZ | 82386 | 410-63 | SCREW, CAP, HEX HD PART OF EES KIT P/N C5136350 | 5 |
| 9 | PAOZZ | 96906 | MS35764-854 | BOLT PART OF EES KIT P/N C5136350 | 1 |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|---|------------|
| 10 | PAOZZ | 96906 | MS35338-47 | WASHER, LOCK PART OF EES KIT P/N C5136350 | 2 |
| 11 | PAOZZ | 11862 | 2436164 | WASHER, FLAT PART OF EES KIT P/N C5136350 | 2 |
| 12 | PAOZZ | 19207 | 12342075 | BRACKET, SUPPORT PART OF EES KIT P/N C5136350 | 1 |
| 13 | PAOZZ | K1076 | 9145-105-005B | NUT, PLAIN HEXAGON PART OF EES KIT P/N C5136350 | 1 |
| 14 | PAOZZ | 11862 | 11500207 | WASHER, LOCK PART OF EES KIT P/N C5136350 | 1 |
| 15 | PAOZZ | 19207 | 12339406-2 | STUD, SPECIAL PART OF EES KIT P/N C5136350 | 1 |
| 16 | PAOZZ | 96906 | MS15795-815 | WASHER, FLAT PART OF EES KIT P/N C5136350 | 1 |
| 17 | PAOZZ | 19207 | 12338186-62 | SPACER, .160 THK PART OF EES KIT P/N C5136350 | 1 |
| 18 | PAOZZ | 19207 | 12338786 | BRACKET, MOUNTING PART OF EES KIT P/N C5136350 | 1 |
| 19 | PAOZZ | 19207 | 12340845-2 | BOLT PART OF EES KIT P/N C5136350 | 1 |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
| 20 | PAOZZ | 19207 | 12341151 | GROUND STRAP PART OF EES KIT P/N C5136350 | 1 |
| 21 | PAOZZ | 19207 | 12340845-3 | BOLT PART OF EES KIT P/N C5136350 | 1 |
| 22 | PAOZZ | 96906 | MS35764-853 | BOLT PART OF EES KIT P/N C5136350 | 1 |
| 23 | PAOFF | 19207 | 12338796 | GENERATOR, ENGINE, ACCESSORY PART OF EES KIT P/N C5136350 | 1 |
| 24 | PAOZZ | 19207 | 12339392 | PULLEY, GROOVE PART OF EES KIT P/N C5136350 | 1 |
| 25 | PAOZZ | 19207 | 12339890 | CLIP, SPRING TENSION | 1 |
| END OF FIGURE | | | | | |

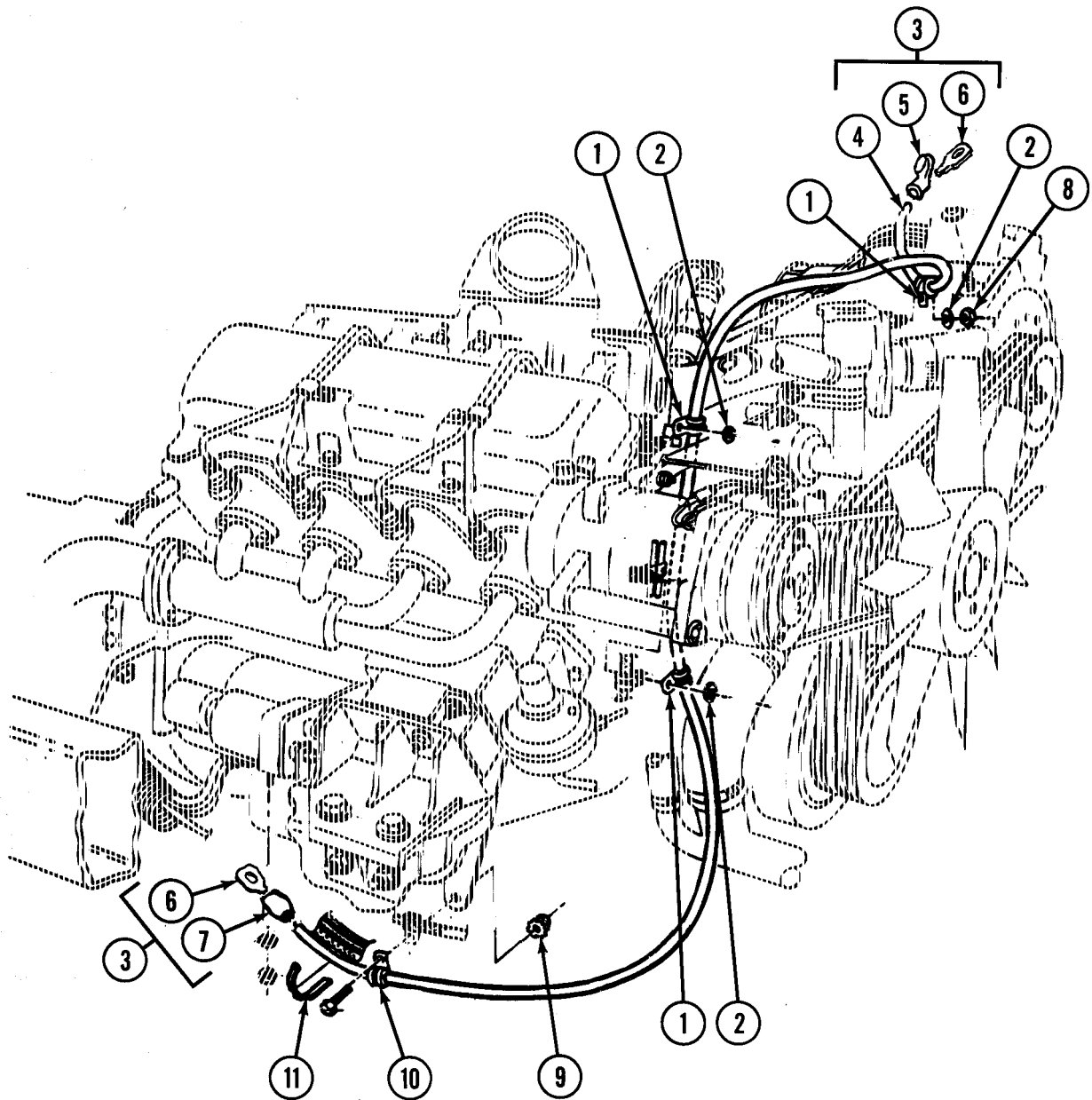


Figure 20. EES Kit, 200 Amp Alternator Cable Assembly

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|---|--------------------|---------------------|-----------------------|--|------------|
| GROUP 3307: EES KIT FIG. 20 200 AMP ALTERNATOR CABLE ASSEMBLY | | | | | |
| 1 | PAOZZ | 96906 | MS21333-126 | CLAMP, LOOP PART OF EES KIT P/N C5136350 | 3 |
| 2 | PAOZZ | 11862 | 11500207 | WASHER, LOCK PART OF EES KIT P/N C5136350 | 3 |
| 3 | MOOZZ | 19207 | 12339317 | CABLE ASSY, POS 220 AMP MAKE FROM 1/0 AWG CABLE, M13486-1-14, 58.0 IN LONG | 1 |
| 4 | PAOZZ | 81349 | M13486-1-14 | .CABLE, 1/0 AWG | V |
| 5 | PAOZZ | 99771 | 5582481 | .CABLE NIPPLE, ELECT | 1 |
| 6 | PAOZZ | 59730 | TG33 | .END TERMINAL | 2 |
| 7 | PAOZZ | 19207 | 7055640 | .END INSULATOR | 1 |
| 8 | PAOZZ | K1076 | 9145-105-00B | NUT, PLAIN HEXAGON PART OF EES KIT P/N C5136350 | 1 |
| 9 | PAOZZ | 11862 | 271172 | NUT/LOCKWASHER ASSY PART OF EES KIT P/N C5136350 | 1 |
| 10 | PAOZZ | 96906 | MS21333-105 | CLAMP, LOOP PART OF EES KIT P/N C5136350 | 1 |
| 11 | PAOZZ | 96906 | MS3367-3-0 | STRAP, TIEDOWN PART OF EES KIT P/N C5136350 | V |
| END OF FIGURE | | | | | |

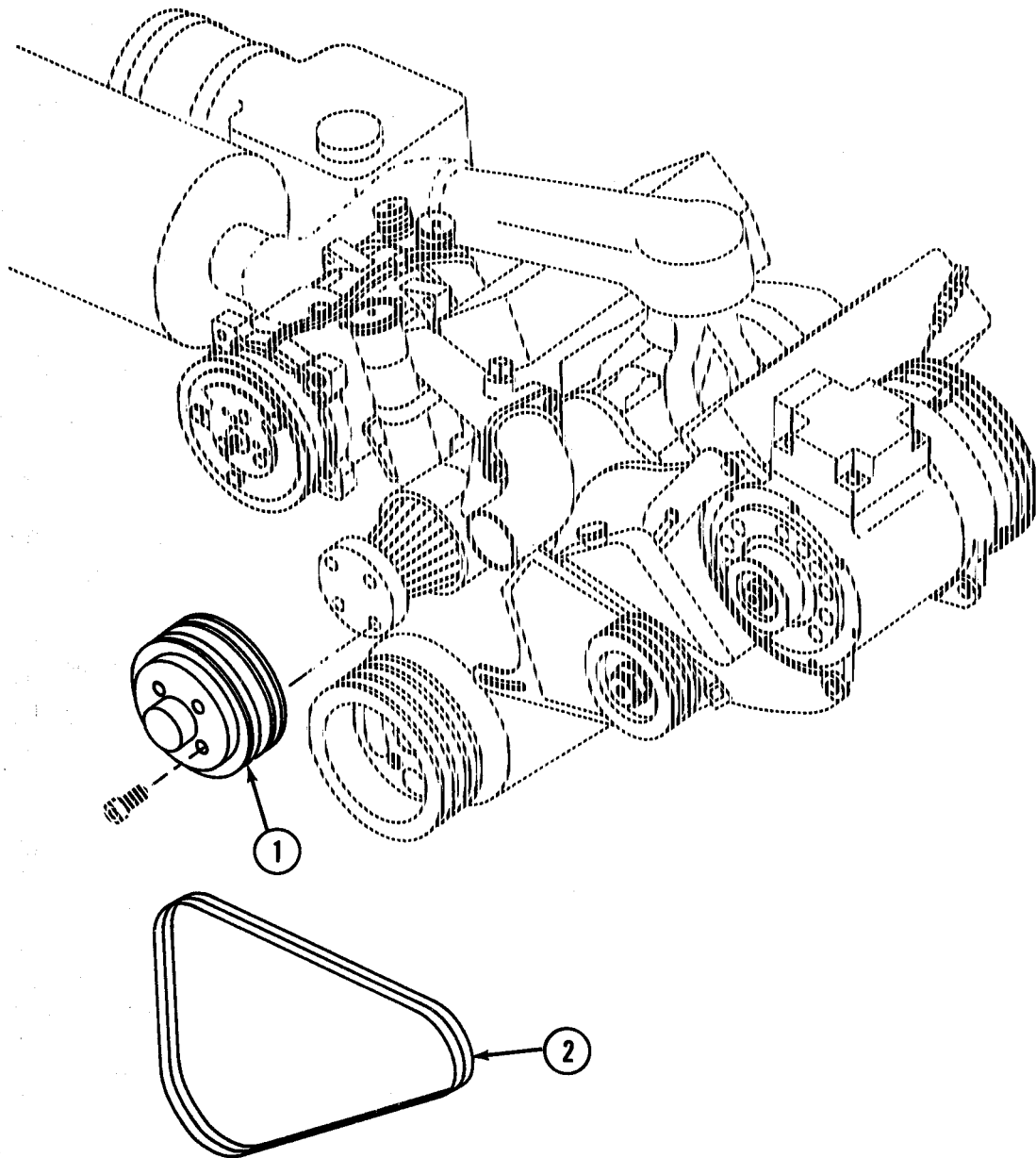


Figure 21. EES Kit, Water Pump Pulley and Power Steering V-Belt

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|---|------------|
| | | | | GROUP 3307: EES KIT FIG. 21 WATER PUMP PULLEY AND POWER STEERING V-BELT | |
| 1 | PAOZZ | 19207 | 12338782 | PULLEY, WATER PUMP PULLEY PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 19207 | 12339359-14 | V-BELT, POWER STEERING PART OF EES KIT P/N C5136350 | 1 |
| | | | | END OF FIGURE | |

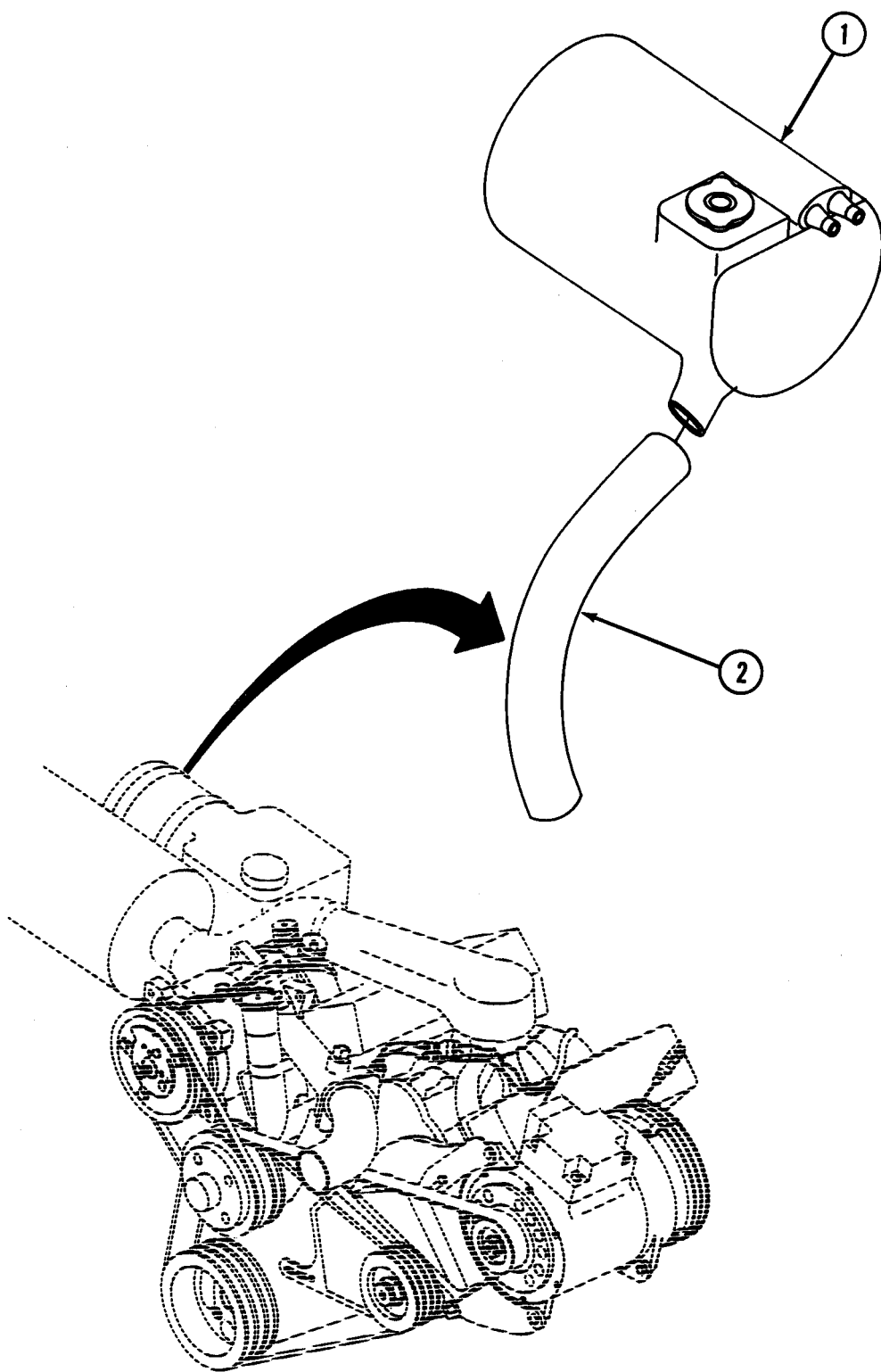


Figure 22. EES Kit, Surge Tank Assembly and Lower Radiator Hose

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|---|--------------------|-------------|-----------------------|---|------------|
| GROUP 3307: EES KIT FIG. 22 SURGE TANK ASSEMBLY AND LOWER RADIATOR HOSE | | | | | |
| 1 | PAOZZ | 19207 | 12340061 | TANK ASSY, SURGE PART OF EES KIT P/N C5136350 | 1 |
| 2 | PAOZZ | 19207 | 12340046 | HOSE, PREFORMED, LOWER RADIATOR TO SURGE TANK PART OF EES KIT P/N C5136350 | 1 |
| END OF FIGURE | | | | | |

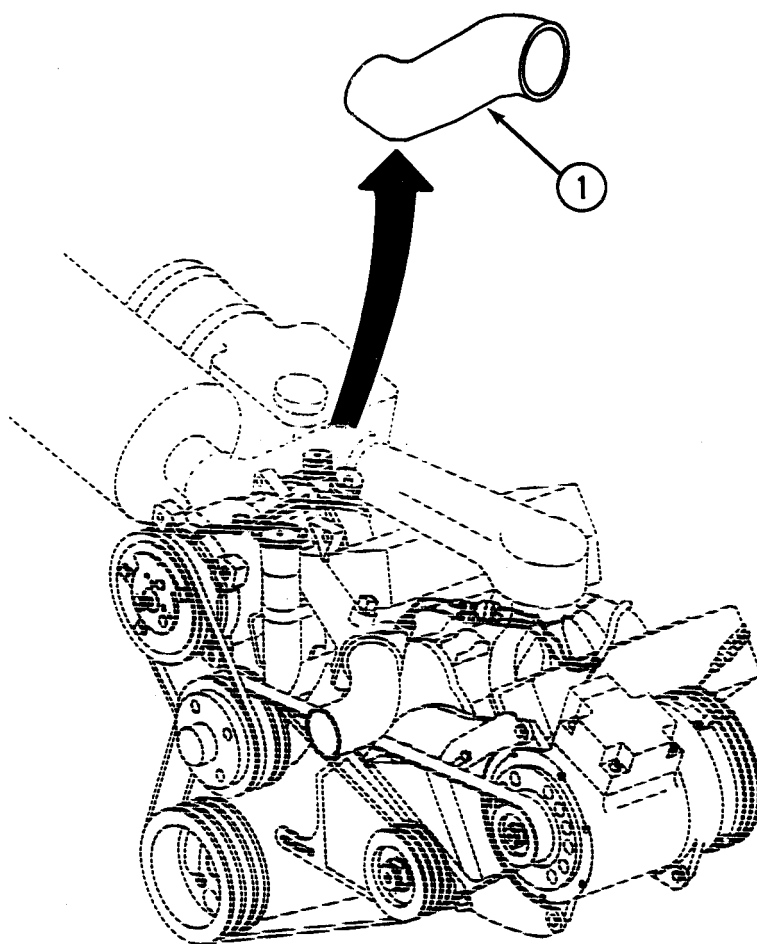


Figure 23. EES Kit, Air Cleaner Elbow Hose

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|---|------------|
| | | | | GROUP 3307: EES KIT FIG. 23 AIR CLEANER ELBOW HOSE | |
| 1 | PAOZZ | 19207 | 12338381 | ELBOW HOSE AIR CLEANER PART OF EES KIT P/N C5136350 | 1 |
| | | | | END OF FIGURE | |

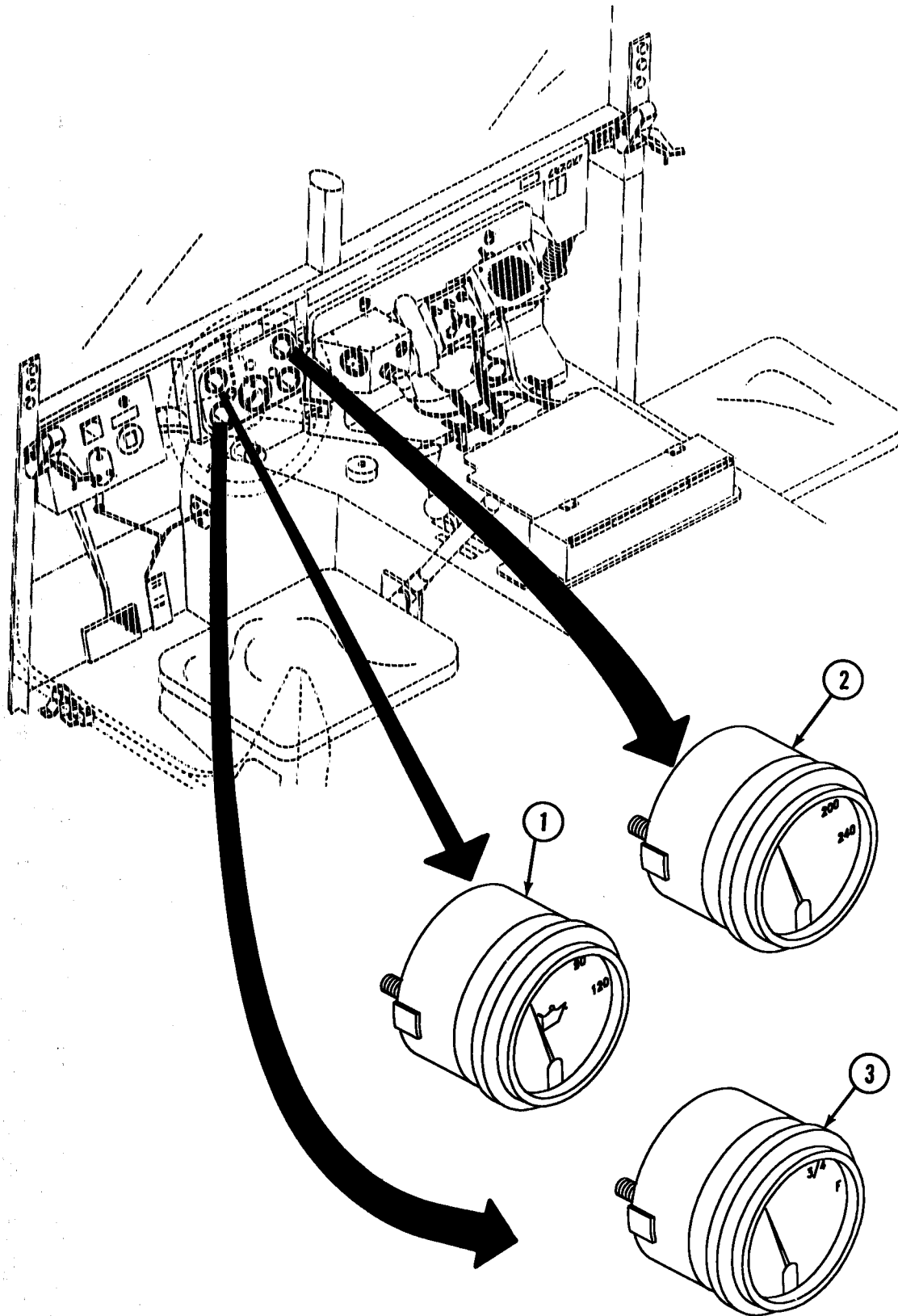


Figure 24. EES Kit, Gages for Status Warning System

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|---------------------|-----------------------|--|------------|
|-------------------|--------------------|---------------------|-----------------------|--|------------|

GROUP 3307: EES KIT
FIG. 24 GAGES FOR STATUS
WARNING SYSTEM

| | | | | | |
|---|-------|-------|----------|---|---|
| 1 | PAOZZ | 57958 | C5136382 | GAUGE ASSY, OIL PRESSURE PART OF EES KIT P/N C5136350 | 1 |
|---|-------|-------|----------|---|---|

| | | | | | |
|---|-------|-------|----------|--|---|
| 2 | PAOZZ | 57958 | C5136383 | GAUGE ASSY, TEMPERATURE PART OF EES KIT P/N C5136350 | 1 |
|---|-------|-------|----------|--|---|

| | | | | | |
|---|-------|-------|----------|---|---|
| 3 | PAOZZ | 57958 | C5136384 | GAUGE ASSY, FUEL LEVEL PART OF EES KIT P/N C5136350 | 1 |
|---|-------|-------|----------|---|---|

END OF FIGURE

| | | | | | |
|--|-------|-------|----------|----------|---|
| | PBFHH | 57958 | C5136350 | KIT, EES | 1 |
|--|-------|-------|----------|----------|---|

POWER INTERFACE (1) 1-1
BOX

WASHER, FLAT (8) 1-2

NUT (4) 1-3

SCREW, MACHINE (4) 1-4

CLAMP LOOP (1) 1-5

GROMMET (2) 1-6

SCREW, TAPPING (1) 1-7

SCREW, CAP (1) 1-8

SEAL, TACH/ (1) 2-1
HOURMETER

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
| | PBFHH | 57958 | C5136350 | KIT, EES (CONTINUED) | |
| | | | | TACH/HOURMETER (1) 2-2 ASSY | |
| | | | | CABLE ASSY (1) 2-3 | |
| | | | | WASHER, FLAT (1) 2-4 | |
| | | | | NUT (2) 2-5 | |
| | | | | SAFETY LANYARD (1) 2-6 | |
| | | | | CABLE ASSY (1) 3-1 | |
| | | | | GROUND WIRE (1) 4-1 | |
| | | | | CLAMP LOOP (1) 5-1 | |
| | | | | BRACKET, ANGLE (1) 5-2 | |
| | | | | SCREW, CAP (1) 5-3 | |
| | | | | STRAP, TIEDOWN (V) 5-4 | |
| | | | | CONNECTOR, PLUG (1) 6-1 | |
| | | | | ADAPTER, (1) 6-2 CONNECTOR | |
| | | | | ADAPTER, (1) 6-3 CONNECTOR | |
| | | | | CONNECTOR, PLUG (1) 7-1 | |
| | | | | ADAPTER, (1) 7-2 CONNECTOR | |
| | | | | ADAPTER, (1) 7-3 CONNECTOR | |
| | | | | CONNECTOR, PLUG (1) 7-4 | |
| | | | | ADAPTER, (1) 8-1 CONNECTOR | |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
| | PBFHH | 57958 | C5136350 | KIT, EES (CONTINUED) | |
| | | | | ADAPTER, (1) 8-2 CONNECTOR | |
| | | | | ADAPTER, (1) 9-1 CONNECTOR | |
| | | | | ADAPTER, (1) 9-2 CONNECTOR | |
| | | | | ADAPTER, (1) 10-1 CONNECTOR | |
| | | | | ADAPTER, (1) 10-2 CONNECTOR | |
| | | | | ADAPTER, (1) 11-1 CONNECTOR | |
| | | | | ADAPTER, (1) 11-2 CONNECTOR | |
| | | | | QUICK COUPLE (1) 12-1 ASSY | |
| | | | | DUST PLUG ASSY (1) 12-2 | |
| | | | | DUST PLUG ASSY (1) 12-4 | |
| | | | | QUICK COUPLE (1) 12-6 ASSY | |
| | | | | HOSE ASSY (1) 12-7 | |
| | | | | O-RING (3) 12-10 | |
| | | | | VALVE ASSY (1) 12-11 | |
| | | | | O-RING (1) 12-12 | |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
| | PBFHH | 57958 | C5136350 | KIT, EES (CONTINUED) | |
| | | | | VALVE ASSY (1) 12-13 | |
| | | | | NUT (1) 12-14 | |
| | | | | WASHER (2) 12-15 | |
| | | | | SCREW, CAP (1) 12-16 | |
| | | | | CLAMP (1) 12-17 | |
| | | | | STRAP, TIEDOWN (6) 12-18 | |
| | | | | HOSE ASSY (1) 12-19 | |
| | | | | PROTECTOR (1) 12-22 | |
| | | | | STORAGE BOX, (1) 13-1 | |
| | | | | WASHER (2) 13-9 | |
| | | | | BRACKET (2) 14-1 | |
| | | | | WASHER (8) 14-2 | |
| | | | | SCREW, CAP (4) 14-3 | |
| | | | | WASHER (8) 14-4 | |
| | | | | SCREW, MACHINE (4) 14-5 | |
| | | | | CLAMP, RIFLE (2) 14-6 MOUNTING | |
| | | | | NUT (4) 14-7 | |
| | | | | BOLT, MACHINE (6) 14-8 | |
| | | | | WASHER (12) 14-9 | |
| | | | | SUPPORT, RIFLE (2) 14-10 MOUNT | |
| | | | | NUT (6) 14-11 | |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|---|------------|
| | PBFHH | 57958 | C5136350 | KIT, EES (CONTINUED) | |
| | | | | NUT (4) 14-12 | |
| | | | | WASHER (6) 15-1 | |
| | | | | SCREW, PAN HEAD (3) 15-2 | |
| | | | | BRACKET, DOUBLE (1) 15-3 ANGLE | |
| | | | | STRAP ASSY (1) 15-4 | |
| | | | | NUT (2) 15-10 | |
| | | | | BRACKET, DOUBLE (1) 15-11 ANGLE | |
| | | | | SCREW (2) 15-12 | |
| | | | | NUT (3) 15-13 | |
| | | | | BRACKET, THROT- (1) 16-1 TLE CABLE END | |
| | | | | NUT (3) 16-2 | |
| | | | | CABLE ASSY (1) 16-3 | |
| | | | | BRACKET, HAND (1) 16-4 THROTTLE | |
| | | | | INSUL. BLANKET (1) 17-1 | |
| | | | | RETAINER, INSUL (1) 17-2 | |
| | | | | SCREW, CAP (3) 18-1 | |
| | | | | WASHER, LOCK (4) 18-2 | |
| | | | | WASHER (6) 18-3 | |
| | | | | COMPRESSOR ASSY (1) 18-4 | |
| | | | | NUT (2) 18-5 | |
| | | | | SCREW, CAP (1) 18-6 | |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
| | PBFHH | 57958 | C5136350 | KIT, EES (CONTINUED) | |
| | | | | BRACKET ASSY (1) 18-7 | |
| | | | | WASHER (3) 18-8 | |
| | | | | WASHER, LOCK (1) 18-9 | |
| | | | | NUT (2) 18-10 | |
| | | | | V-BELT (1) 18-11 | |
| | | | | STUD (2) 18-12 | |
| | | | | WASHER (2) 18-13 | |
| | | | | BOLT, SHOULDER (1) 18-14 | |
| | | | | BRACKET (1) 18-15 | |
| | | | | BELT, V, (1) 19-1 MATCHED SET | |
| | | | | SCREW, CAP (2) 19-2 | |
| | | | | WASHER, LOCK (1) 19-3 | |
| | | | | WASHER (2) 19-4 | |
| | | | | BRACKET (1) 19-5 | |
| | | | | GUARD, (1) 19-6 MECHANICAL, DR | |
| | | | | WASHER (5) 19-7 | |
| | | | | SCREW, CAP (5) 19-8 | |
| | | | | BOLT (1) 19-9 | |
| | | | | WASHER, LOCK (2) 19-10 | |
| | | | | WASHER (2) 19-11 | |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|---------------------|-----------------------|--|------------|
| | PBFHH | 57958 | C5136350 | KIT, EES (CONTINUED) | |
| | | | | BRACKET (1) 19-12 | |
| | | | | NUT (1) 19-13 | |
| | | | | WASHER, LOCK (1) 19-14 | |
| | | | | STUD (1) 19-15 | |
| | | | | WASHER (1) 19-16 | |
| | | | | SPACER (1) 19-17 | |
| | | | | BRACKET, (1) 19-18 MOUNTING | |
| | | | | BOLT (1) 19-19 | |
| | | | | GROUND STRAP (1) 19-20 | |
| | | | | BOLT (1) 19-21 | |
| | | | | BOLT, HEX (1) 19-22 | |
| | | | | GENERATOR, (1) 19-23 ENGINE, ACCESSORY | |
| | | | | PULLEY, GROOVE (1) 19-24 | |
| | | | | CLIP, SPRING (1) 19-25 TENSION | |
| | | | | CLAMP, LOOP (3) 20-1 | |
| | | | | WASHER, LOCK (3) 20-2 | |
| | | | | CABLE ASSY (1) 20-3 | |
| | | | | NUT (1) 20-8 | |
| | | | | NUT/LOCKWASHER (1) 20-9 ASSY | |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
| | PBFHH | 57958 | C5136350 | KIT, EES (CONTINUED) | |
| | | | | CLAMP, LOOP (1) 20-10 | |
| | | | | STRAP, TIEDOWN (V) 20-11 | |
| | | | | PULLEY (1) 21-1 | |
| | | | | V-BELT (1) 21-2 | |
| | | | | TANK ASSY (1) 22-1 | |
| | | | | HOSE (1) 22-2 | |
| | | | | ELBOW HOSE AIR (1) 23-1 CLEANER | |
| | | | | GAUGE ASSY, (1) 24-1 OIL PRESSURE | |
| | | | | GAUGE ASSY, (1) 24-2 TEMPERATURE | |
| | | | | GAUGE ASSY, (1) 24-3 FUEL LEVEL | |
| | | | | END OF FIGURE | |

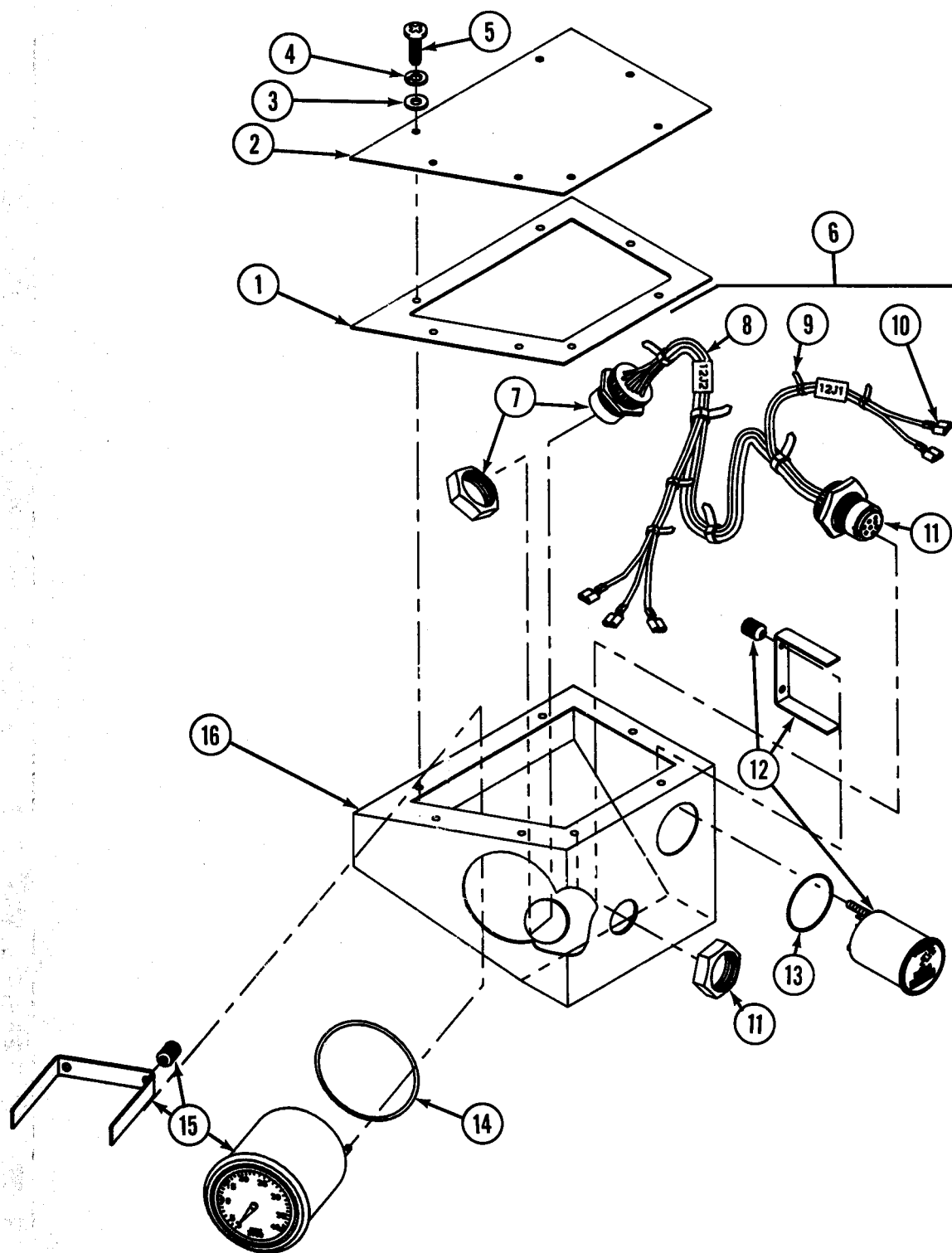


Figure 25. Tach/Hourmeter Assembly

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|---------------------|-----------------------|--|------------|
| GROUP 330701: TACH/ HOURMETER ASSEMBLY FIG. 25 TACH/HOURMETER ASSEMBLY | | | | | |
| 1 | PFOZZ | 57958 | C5136338 | GASKET, TACH/HOURMETER BOX | 1 |
| 2 | PFOZZ | 57958 | C5136336 | COVER, TACH/HOURMETER BOX | 1 |
| 3 | PAOZZ | 96906 | MS15795-841 | WASHER, FLAT | 7 |
| 4 | PAOZZ | 96906 | MS35338-137 | WASHER, LOCK | 7 |
| 5 | PAOZZ | 96906 | MS51957-45 | SCREW, MACHINE | 7 |
| 6 | PFOZZ | 57958 | C5136337 | HARNESS ASSY | 1 |
| 7 | XAOZZ | 96906 | MS3474W16-8P | .CONNECTOR, RECEPTACLE | 1 |
| 8 | XAOZZ | 06090 | TMS-WM-00/4 | .INSULATION SLEEVING | V |
| 9 | XAOZZ | 96906 | MS3367-4-9 | .STRAP, TIEDOWN | V |
| 10 | XAOZZ | 28959 | LVDDF-2216T-250A | .DISCONNECT, FEMALE | 5 |
| 11 | XAOZZ | 96906 | MS3474W16-8S | .CONNECTOR, RECEPTACLE | 1 |
| 12 | PFOZZ | 59197 | 331-504 | HOURMETER | 1 |
| 13 | PAOZZ | 96906 | MS9021-136 | PACKING, PREFORMED | 1 |
| 14 | PAOZZ | 96906 | MS9021-236 | PACKING, PREFORMED | 1 |
| 15 | PFOZZ | 59197 | 333-508 | TACHOMETER, ELECTRIC | 1 |
| 16 | PFOZZ | 57958 | C5136335 | BOX, TACH/HOURMETER | 1 |
| END OF FIGURE | | | | | |

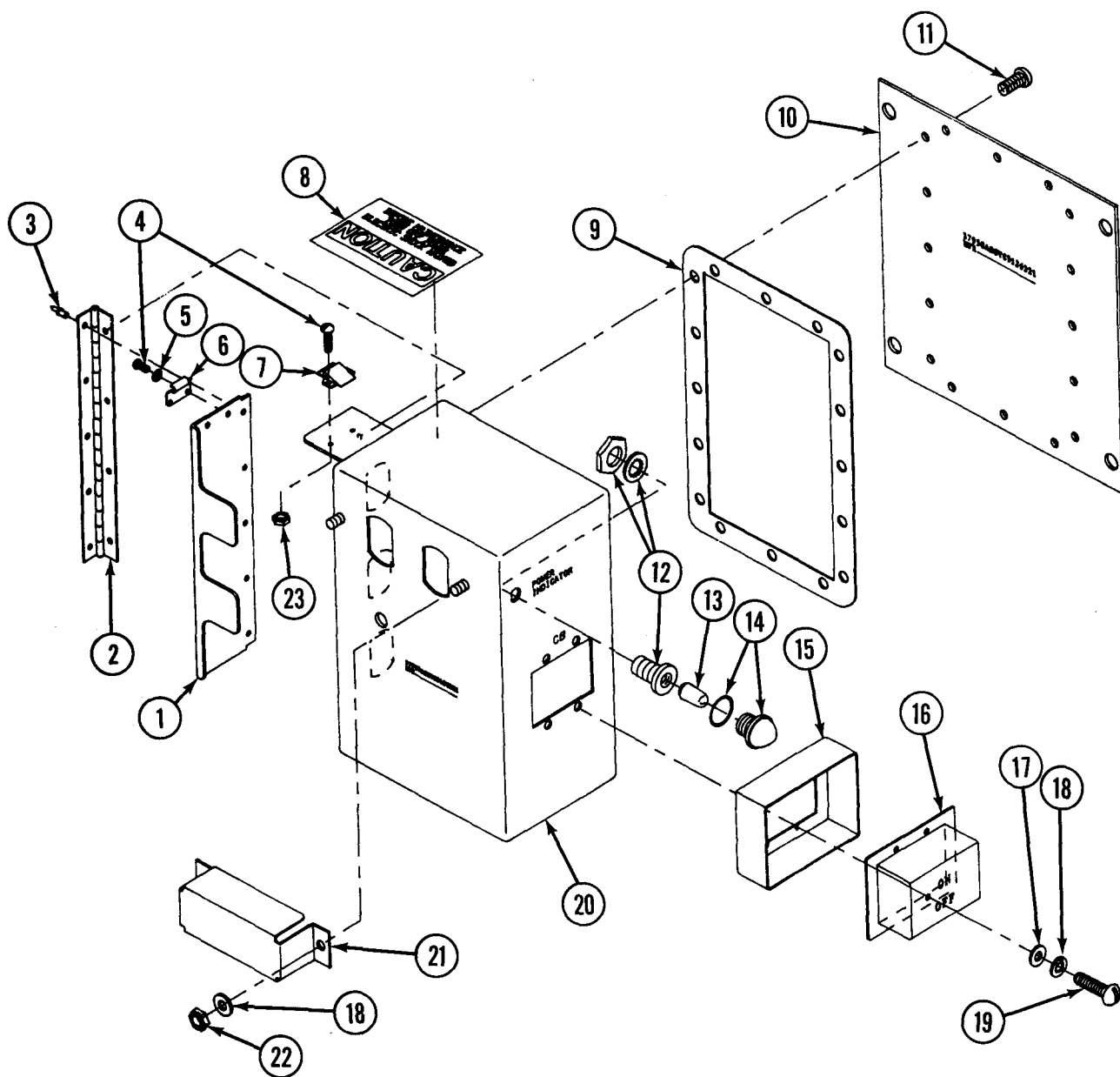


Figure 26. Power Interface Box Assembly (sheet 1 of 2)

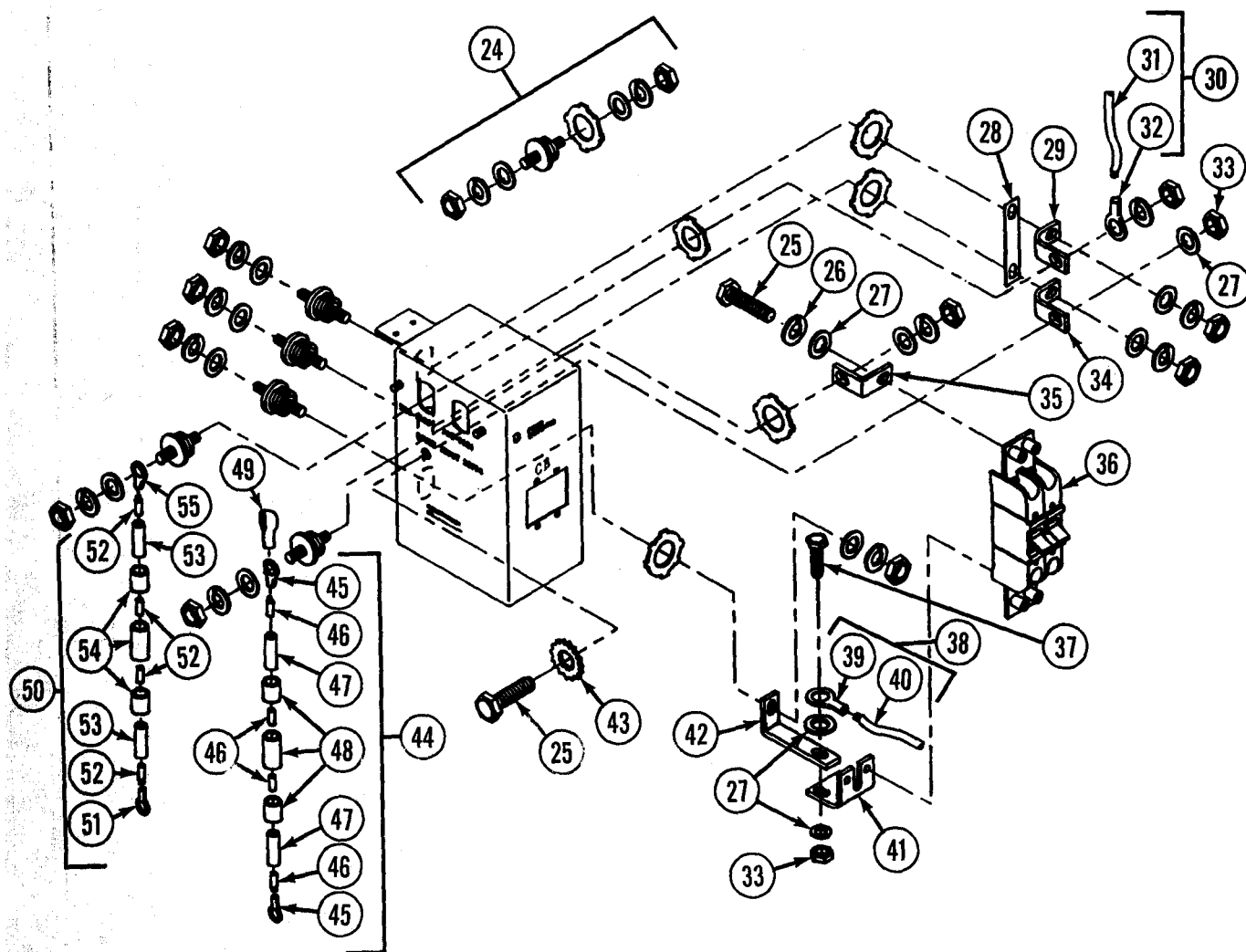


Figure 26. Power Interface Box Assembly (sheet 2 of 2)

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|-------------|-----------------------|--|------------|
| | | | | GROUP 330702: POWER INTERFACE BOX ASSEMBLY FIG. 26 POWER INTERFACE BOX ASSEMBLY | |
| 1 | PAOZZ | 57958 | C5136314 | COVER, PWR TERMINALS | 1 |
| 2 | MOOZZ | 57958 | C5136313 | HINGE, PWR TERMINAL COVER MAKE FROM HINGE MS35825-11A, 10.5 IN. LONG | 1 |
| 3 | PAFZZ | 19738 | 1601-0619 | RIVET, DOME HD | 9 |
| 4 | PAOZZ | 96906 | MS51957-28 | SCREW, MACHINE | 4 |
| 5 | PAOZZ | 96906 | MS35338-136 | WASHER, LOCK | 2 |
| 6 | PFOZZ | 72794 | TL800-9SS | STRIKE | 1 |
| 7 | PAOZZ | 72794 | TL803BSS | CATCH, CLAMPING | 1 |
| 8 | PBOZZ | 57958 | C5136136 | LABEL, CAUTION, ELECT | 1 |
| 9 | PAOZZ | 57958 | C5136331 | GASKET, POWER INTERF | 1 |
| 10 | XAOZZ | 57958 | C5136330 | COVER, REAR, PWR INTERF | 1 |
| 11 | PAOZZ | 96906 | MS51959-45 | SCREW, MACHINE | 16 |
| 12 | PAFZZ | 72619 | 367-8430-09-503 | LIGHT, INDICATOR | 1 |
| 13 | PAOZZ | 13182 | A580-10190 | LAMP, INCANDESCENT | 1 |
| 14 | PAOZZ | 81349 | LC35BT2 | LENS, LIGHT | 1 |
| 15 | PAOZZ | 57958 | C5136302 | GUARD, CIRCUIT BREAKER | 1 |
| 16 | PBOZZ | 57958 | C5136327 | BOOT, CIRCUIT BREAKER | 1 |
| 17 | PAOZZ | 96906 | MS15795-808 | WASHER, FL | 6 |
| 18 | PAOZZ | 96906 | MS35338-138 | WASHER, LOCK | 4 |
| 19 | PAOZZ | 96906 | MS51958-64 | SCREW, MACHINE | 4 |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|---------------------|--------------------------|---|------------|
| 20 | PFFZZ | 57958 | C5136321 | BOX, POWER INTERFACE | 1 |
| 21 | PAOZZ | 57958 | C5136311 | COVER, TERMINAL | 1 |
| 22 | PAOZZ | 96906 | MS21044C06 | NUT, SELF-LOCKING | 2 |
| 23 | PAOZZ | 96906 | MS21044C3 | NUT, SELF-LOCKING, HEX | 2 |
| 24 | PAFZZ | 13445 | 46211-03 | TERMINAL, FEEDTHRU | 5 |
| 25 | PAOZZ | 96906 | MS35307-360 | SCREW, CAP, HEX | 2 |
| 26 | PAFZZ | 96906 | MS35338-122 | WASHER, LOCK | 1 |
| 27 | PAFZZ | 96906 | MS15795-514 | WASHER, FLAT | 4 |
| 28 | PFFZZ | 57958 | C5136324 | BUS BAR, STRAP | 1 |
| 29 | PBFZZ | 57958 | C5136325 | BUS BAR, NEGATIVE | 1 |
| 30 | MFFZZ | 57958 | C5136333 | WIRE ASSEMBLY, NEG. MAKE FROM WIRE M16878/4BGE9 7.0 IN. | 1 |
| 31 | PAFZZ | 81349 | M16878/4BGE9 | o WIRE, INSULATED | V |
| 32 | PAFZZ | 96906 | MS25036-151 | o TERMINAL LUG | 1 |
| 33 | PAFZZ | 96906 | MS35649-2386 | NUT, PLAIN, HEX | 2 |
| 34 | PBFZZ | 57958 | C5136323 | BUS BAR, GROUND | 1 |
| 35 | PBFZZ | 57958 | C5136326 | BUS BAR, POSITIVE IN | 1 |
| 36 | PAFZZ | 74193 | GJ1P-B3-P-E-DU- 250-1 | CIRCUIT BREAKER | 1 |
| 37 | PAFZZ | 96906 | MS35307-362 | SCREW, CAP, HEX | 1 |
| 38 | MFFZZ | 57958 | C5136332 | WIRE ASSEMBLY, POS MAKE FROM WIRE M16878/4BGE9 12.5 IN. | 1 |

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|-------------------|--------------------|---------------------|-----------------------|---|------------|
| 39 | PAFZZ | 96906 | MS25036-105 | o TERMINAL, LUG | 1 |
| 40 | PAFZZ | 81349 | M16878/4BGE9 | o WIRE, INSULATED | V |
| 41 | PBFZZ | 57958 | C5136328 | BUS BAR, CIRCUIT BREAKER | 1 |
| 42 | PBFZZ | 57958 | C5136322 | BUS BAR, POSITIVE OUT | 1 |
| 43 | PAOZZ | 96906 | MS45904-77 | WASHER, LOCK | 1 |
| 44 | MOOOO | 57958 | C5136368-2 | POWER CABLE ASSY MAKE FROM CABLE M13486-1-14 63 IN. | 1 |
| 45 | PAOZZ | 96906 | MS25036-134 | o TERMINAL LUG | 2 |
| 46 | PAOZZ | 81349 | M13486-1-14 | o CABLE, 1/0 AWG | V |
| 47 | PAOZZ | 81349 | M23053/5-110-2 | o INSULATION SLEEVING | V |
| 48 | PAOZZ | 81349 | M23053/5-110-4 | o INSULATION SLEEVING | V |
| 49 | PAOZZ | 99771 | 5582481 | o CABLE NIPPLE, ELECT | 1 |
| 50 | MOOOO | 57958 | C5136368-1 | POWER CABLE ASSY MAKE FROM CABLE M13486-1-14 50 IN. | 1 |
| 51 | PAOZZ | 96906 | MS25036-133 | o TERMINAL LUG | 1 |
| 52 | PAOZZ | 81349 | M13486-1-14 | o CABLE, 1/0 AWG | V |
| 53 | PAOZZ | 81349 | M23053/5-110-0 | o INSULATION SLEEVING | V |
| 54 | PAOZZ | 81349 | M23053/5-110-4 | o INSULATION SLEEVING | V |
| 55 | PAOZZ | 96906 | MS25036-134 | o TERMINAL LUG | 1 |

END OF FIGURE

SECTION II

TM9-2320-362-14&P

| (1) ITEM NO | (2) SMR CODE | (3) CAGE | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE | (6) QTY |
|--|--------------------|-------------|-----------------------|--|------------|
| GROUP 95: GENERAL USE STANDARD PARTS 9501 HARDWARE SUPPLIES AND BULK MATERIAL COMMON FIG. BULK | | | | | |
| 1 | PAOZZ | 81349 | M13486-1-14 | CABLE, 1/0 AWG | V |
| 2 | PAOZZ | 96906 | MS35825-11A | HINGE, BUTT, CONTINUOUS (PIANO) .060 INCH THICK, .125 INCH PIN DIA. 2 INCH WIDE. 84 INCH LONG | V |
| 3 | PAOZZ | 81349 | M23053/5-110-0 | INSULATION SLEEVING, ELECT, HEATSHRINK, BLK, 1.000 INCH I.D. | V |
| 4 | PAFZZ | 81349 | M23053/5-112-0 | INSULATION SLEEVING, ELECT, HEATSHRINK, BLK, 1.350 INCH I.D. | V |
| 5 | PAOZZ | 81349 | M23053/5-110-2 | INSULATION SLEEVING, ELECT, HEATSHRINK, RED, 1.000 INCH I.D. | V |
| 6 | PAOZZ | 81349 | M23053/5-110-4 | INSULATION SLEEVING, ELECT, HEATSHRINK, YEL, 1.000 INCH I.D. | V |
| 7 | PAFZZ | 03938 | 818 | INSULATION SLEEVING, THERMAL (ASTMC534TY1) 1-1/4 INCH O.D. X 1/4 INCH WALL | V |
| 8 | PAOZZ | 81349 | M16878/4BGE9 | WIRE, INSULATED, NO. 20 AWG TYPE E, WHT | V |
| END OF FIGURE | | | | | |

BULK - 1

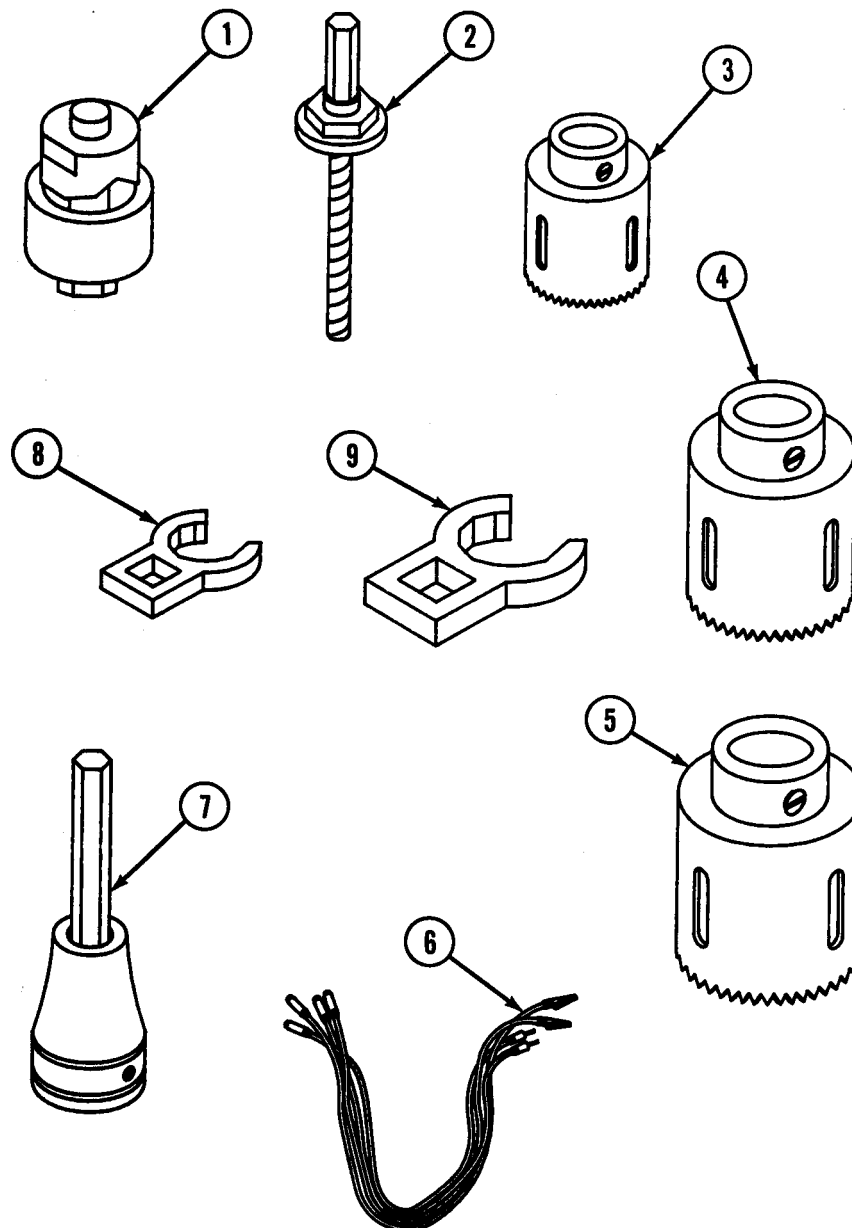


Figure 27. Special Tools

SPECIAL TOOLS LIST

| (1) | (2) | (3) | (4) | (5) | (6) |
|------|------|------|--------|--------------------|-----|
| ITEM | SMR | | PART | DESCRIPTION | |
| NO | CODE | CAGE | NUMBER | AND USABLE ON CODE | QTY |

GROUP 26: TOOLS AND TEST
EQUIP 2604 SPECIAL TOOLS
FIG. 27 SPECIAL TOOLS

| | | | | | |
|---|-------|-------|----------------------|--|--|
| 1 | PEHZZ | 26289 | 730-3-4-13-4 | PUNCH AND DIE, KNOCKOUT (1-3/4") | |
| 2 | PEHZZ | 58536 | A-A-51135 STYLE X | ARBOR, HOLE SAW | |
| 3 | PEHZZ | 03895 | 26 | BLADE, HOLE SAW (1-5/8") | |
| 4 | PEHZZ | 40684 | 542 | BLADE, HOLE SAW (2-5/8") | |
| 5 | PEHZZ | 57163 | H0212 | BLADE, HOLE SAW (2-1/2") | |
| 6 | PEOZZ | 72653 | 36-470S | LEAD SET, TEST | |
| 7 | PEOZZ | 55719 | FAM6A | SOCKET, WRENCH ATTACH, HEX (6MM - 3/8" DRIVE) | |
| 8 | PEFZZ | 55719 | AN8508-19 | CROWFOOT (1-3/16") | |
| 9 | PEFZZ | 55719 | AN8508-8 | CROWFOOT (1-5/8") | |

END OF FIGURE

TM9-2320-362-14&P
SECTION IV
CROSS-REFERENCE INDEXES
NATIONAL STOCK NUMBER INDEX

| STOCK NUMBER | FIG | ITEM | STOCK NUMBER | FIG | ITEM |
|------------------|------|------|------------------|------|------|
| 5320-00-005-1051 | 13 | 7 | 5305-00-269-3216 | 18 | 6 |
| | 26 | 3 | 5325-00-290-1960 | 1 | 6 |
| 5340-00-053-8994 | 20 | 1 | 3455-00-335-3045 | 27 | 3 |
| 5305-00-054-6652 | 13 | 2 | 6210-00-401-9796 | 26 | 14 |
| | 26 | 4 | 5310-00-410-3023 | 26 | 33 |
| 5305-00-054-6670 | 25 | 5 | 5640-00-435-4440 | BULK | 7 |
| 5305-00-054-6672 | 14 | 5 | | 12 | 8 |
| 5340-00-057-6956 | 15 | 7 | | 12 | 20 |
| 5305-00-059-3660 | 26 | 19 | 6625-00-444-4041 | 27 | 6 |
| 5310-00-061-4650 | 12 | 14 | 5935-00-462-6603 | 4 | 2 |
| | 14 | 12 | | 7 | 4 |
| | 15 | 13 | 5305-00-477-0122 | 1 | 7 |
| 5110-00-062-0883 | 27 | 1 | 5340-00-523-6418 | 15 | 5 |
| 5305-00-068-0502 | 12 | 16 | 3460-00-540-1291 | 27 | 2 |
| 5305-00-068-0510 | 19 | 2 | 5305-00-576-5417 | 26 | 25 |
| 5305-00-071-1323 | 15 | 12 | 5310-00-582-5677 | 1 | 2 |
| 5975-00-074-2072 | 12 | 21 | | 13 | 9 |
| 5305-00-082-6721 | 1 | 4 | | 15 | 1 |
| | 15 | 2 | 5305-00-582-9501 | 19 | 8 |
| 5310-00-087-7493 | 18 | 3 | 5310-00-595-6057 | 19 | 16 |
| | 19 | 4 | 5310-00-596-7599 | 26 | 27 |
| 6145-00-088-0404 | BULK | 8 | 5330-00-618-5904 | 25 | 13 |
| | 26 | 31 | 5310-00-619-1148 | 2 | 4 |
| | 26 | 40 | | 26 | 17 |
| 5975-00-111-3208 | 12 | 9 | 5310-00-637-9541 | 18 | 2 |
| 5490-00-113-8185 | 26 | 32 | | 19 | 3 |
| 5935-00-115-2307 | 3 | 2 | 6145-00-705-6674 | BULK | 1 |
| | 6 | 1 | | 20 | 4 |
| 5940-00-115-5006 | 26 | 51 | | 26 | 46 |
| 5940-00-143-4773 | 26 | 39 | | 26 | 52 |
| 6145-00-152-6499 | 4 | 4 | 5940-00-705-6711 | 3 | 6 |
| 6240-00-155-7836 | 26 | 13 | | 4 | 5 |
| 6145-00-161-1609 | 3 | 3 | 5305-00-717-5467 | 26 | 37 |
| 5935-00-167-7775 | 7 | 1 | 5310-00-721-5447 | 14 | 7 |
| 6120-00-176-4928 | 26 | 12 | 5975-00-727-5153 | 25 | 9 |
| 5310-00-187-2427 | 26 | 26 | 5940-00-735-5520 | 20 | 6 |
| 5310-00-208-9255 | 2 | 5 | 5305-00-764-0068 | 26 | 11 |
| | 15 | 10 | 5940-00-804-0520 | 26 | 45 |
| | 26 | 23 | | 26 | 55 |
| 5310-00-209-0965 | 19 | 10 | 5935-00-807-4109 | 6 | 3 |
| 3455-00-222-4143 | 27 | 4 | | 7 | 3 |
| 5305-00-225-3839 | 14 | 3 | | 8 | 1 |
| 5310-00-225-5328 | 25 | 3 | | 9 | 1 |
| 5306-00-225-8498 | 14 | 8 | | 10 | 1 |
| 5120-00-229-2774 | 27 | 8 | | 11 | 1 |
| 5120-00-238-8266 | 27 | 9 | 5340-00-809-1494 | 20 | 10 |
| 5310-00-241-6604 | 1 | 3 | 5310-00-809-4058 | 14 | 2 |
| | 16 | 2 | 5310-00-809-4085 | 19 | 11 |
| 5305-00-269-3214 | 18 | 1 | | | |

TM9-2320-362-14&P
SECTION IV
NATIONAL STOCK NUMBER INDEX (CONT'D)

| STOCK NUMBER | FIG | ITEM | STOCK NUMBER | FIG | ITEM |
|------------------|------|------|------------------|-----|------|
| 5310-00-814-0673 | 14 | 11 | 5940-01-180-3655 | 26 | 24 |
| 5970-00-815-1300 | BULK | 3 | 5340-01-187-0892 | 19 | 25 |
| | 26 | 53 | 2590-01-194-2048 | 14 | 10 |
| 5330-00-827-0248 | 25 | 14 | 3455-01-196-0636 | 27 | 5 |
| 2540-00-875-9587 | 2 | 11 | 5306-01-197-1513 | 18 | 14 |
| 9905-00-893-3570 | 2 | 10 | 2920-01-197-5548 | 19 | 5 |
| 5975-00-899-4606 | 5 | 4 | 1015-01-200-0869 | 14 | 6 |
| 5935-00-900-6281 | 6 | 2 | 4720-01-203-7789 | 23 | 1 |
| | 7 | 2 | 5310-01-204-6745 | 18 | 13 |
| | 8 | 2 | 5310-01-206-7306 | 18 | 9 |
| | 9 | 2 | | 19 | 14 |
| | 10 | 2 | | 20 | 2 |
| | 11 | 2 | 5975-01-208-9618 | 20 | 5 |
| 5970-00-914-3118 | 3 | 4 | | 26 | 49 |
| 5340-00-921-6993 | 1 | 5 | 5310-01-213-4192 | 14 | 4 |
| 5310-00-929-6395 | 13 | 6 | 5340-01-215-9774 | 13 | 3 |
| | 26 | 5 | | 26 | 7 |
| 5310-00-933-8119 | 25 | 4 | 5935-01-222-2270 | 25 | 7 |
| 5310-00-933-8120 | 26 | 18 | 3020-01-232-9629 | 19 | 24 |
| 5310-00-935-9021 | 18 | 5 | 5310-01-234-9416 | 19 | 7 |
| 5305-00-942-2196 | 1 | 8 | 5340-01-247-7913 | 14 | 1 |
| 5970-00-944-1328 | BULK | 4 | 2510-01-252-4466 | 17 | 1 |
| 5310-00-953-8628 | 26 | 43 | 2930-01-256-5350 | 22 | 1 |
| 5970-00-959-6336 | BULK | 6 | 8305-01-263-3626 | 15 | 6 |
| | 26 | 48 | 5306-01-263-8889 | 19 | 19 |
| | 26 | 54 | 2920-01-264-6542 | 19 | 23 |
| 5970-00-978-7677 | BULK | 5 | 5330-01-265-8809 | 12 | 10 |
| | 26 | 47 | 3040-01-270-9466 | 19 | 6 |
| 5310-00-982-6813 | 13 | 4 | 5310-01-272-2579 | 18 | 8 |
| | 26 | 22 | 5340-01-272-6634 | 18 | 15 |
| 5975-00-985-6630 | 12 | 18 | 5340-01-272-8391 | 12 | 22 |
| | 20 | 11 | 5340-01-273-1721 | 12 | 17 |
| 5340-00-989-1771 | 5 | 1 | 5340-01-273-2368 | 18 | 7 |
| 5340-01-054-1767 | BULK | 2 | 5306-01-276-0848 | 19 | 22 |
| 5120-01-055-1308 | 27 | 7 | 5340-01-277-4533 | 19 | 18 |
| 4030-01-088-2952 | 2 | 8 | 5305-01-285-4883 | 5 | 3 |
| | 12 | 3 | 5307-01-291-9018 | 18 | 12 |
| | 12 | 5 | | 19 | 15 |
| 5310-01-103-6042 | 12 | 15 | 5340-01-293-0125 | 19 | 12 |
| 5935-01-109-3789 | 3 | 5 | 5925-01-293-9930 | 26 | 36 |
| 5935-01-111-4580 | 25 | 11 | 6680-01-294-6535 | 25 | 15 |
| 5310-01-119-1024 | 14 | 9 | 6645-01-300-9392 | 25 | 12 |
| 5310-01-127-2456 | 18 | 10 | 6150-01-304-2245 | 3 | 1 |
| | 19 | 13 | 5925-01-304-2256 | 1 | 1 |
| | 20 | 8 | 9905-01-304-6921 | 26 | 8 |
| 5310-01-152-0598 | 20 | 9 | 2920-01-307-4789 | 25 | 6 |
| 5970-01-174-9449 | 20 | 7 | 5330-01-307-7084 | 26 | 9 |
| 5970-01-178-4591 | 3 | 7 | 5340-01-307-7414 | 13 | 5 |
| | 4 | 3 | | 26 | 6 |
| | 25 | 8 | 2590-01-307-9302 | 16 | 4 |
| | | | 2590-01-307-9303 | 16 | 1 |

TM9-2320-362-14&P
SECTION IV
NATIONAL STOCK NUMBER INDEX

| STOCK NUMBER | FIG | ITEM |
|------------------|-----|------|
| 2590-01-307-9384 | 16 | 3 |
| 5340-01-308-1542 | 13 | 8 |
| 5340-01-308-2168 | 25 | 2 |
| 5340-01-308-3851 | 5 | 2 |
| 6150-01-308-3955 | 26 | 42 |
| 6150-01-308-3956 | 26 | 28 |
| 5330-01-308-4273 | 2 | 1 |
| 4010-01-308-5097 | 2 | 9 |
| 6150-01-308-5317 | 26 | 35 |
| 6150-01-308-5727 | 26 | 29 |
| 6150-01-308-5728 | 26 | 41 |
| 5340-01-308-8237 | 15 | 11 |
| 2540-01-308-9167 | 13 | 1 |
| 4010-01-308-9168 | 2 | 6 |
| 5975-01-309-1794 | 26 | 16 |
| 5340-01-309-3758 | 2 | 7 |
| 5330-01-309-4340 | 25 | 1 |
| 6150-01-309-6453 | 26 | 34 |
| 5340-01-310-1115 | 15 | 3 |
| 3020-01-313-0682 | 21 | 1 |
| 2510-01-313-8061 | 25 | 16 |
| 5340-01-319-1431 | 12 | 4 |
| 5340-01-319-1432 | 12 | 2 |
| 3030-01-321-4482 | 19 | 1 |

| SECTION IV | | TM9-2320-362-14&P | | |
|-------------------|-------------------|-------------------|-----|------|
| PART NUMBER INDEX | | | | |
| CAGE | PART NUMBER | STOCK NUMBER | FIG | ITEM |
| 58536 | A-A-51135 STYLE X | 3460-00-540-1291 | 27 | 2 |
| 55719 | AN8508-8 | 5120-00-238-8266 | 27 | 9 |
| 55719 | AN8508-19 | 5120-00-229-2774 | 27 | 8 |
| 13182 | A580-10190 | 6240-00-155-7836 | 26 | 13 |
| 80204 | B18231A10020NF | 5305-01-285-4883 | 5 | 3 |
| 57958 | C5135948-1 | 5340-01-309-3758 | 2 | 7 |
| 57958 | C5135967 | | 15 | 4 |
| 57958 | C5136136 | 9905-01-304-6921 | 26 | 8 |
| 57958 | C5136153-5 | | 12 | 1 |
| 57958 | C5136152-5 | | 12 | 6 |
| 57958 | C5136162 | 5340-01-319-1431 | 12 | 4 |
| 57958 | C5136163 | 5340-01-319-1432 | 12 | 2 |
| 57958 | C5136302 | | 26 | 15 |
| 57958 | C5136309 | 5340-01-308-1542 | 13 | 8 |
| 57958 | C5136310 | 2540-01-308-9167 | 13 | 1 |
| 57958 | C5136311 | | 26 | 21 |
| 57958 | C5136313 | | 26 | 2 |
| 57958 | C5136314 | | 26 | 1 |
| 57958 | C5136320 | 5925-01-304-2256 | 1 | 1 |
| 57958 | C5136321 | | 26 | 20 |
| 57958 | C5136322 | 6150-01-308-3955 | 26 | 42 |
| 57958 | C5136323 | 6150-01-309-6453 | 26 | 34 |
| 57958 | C5136324 | 6150-01-308-3956 | 26 | 28 |
| 57958 | C5136325 | 6150-01-308-5727 | 26 | 29 |
| 57958 | C5136326 | 6150-01-308-5317 | 26 | 35 |
| 57958 | C5136327 | 5975-01-309-1794 | 26 | 16 |
| 57958 | C513628 | 6150-01-308-5728 | 26 | 41 |
| 57958 | C5136330 | | 26 | 10 |
| 57958 | C5136331 | 5330-01-307-7084 | 26 | 9 |
| 57958 | C5136332 | | 26 | 38 |
| 57958 | C5136333 | | 26 | 30 |
| 57958 | C5136334 | | 2 | 2 |
| 57958 | C5136335 | 2510-01-313-8061 | 25 | 16 |
| 57958 | C5136336 | 5340-01-308-2168 | 25 | 2 |
| 57958 | C5136337 | 2920-01-307-4789 | 25 | 6 |
| 57958 | C5136338 | 5330-01-309-4340 | 25 | 1 |
| 57958 | C5136339 | 5330-01-308-4273 | 2 | 1 |
| 57958 | C5136341 | 4010-01-308-9168 | 2 | 6 |
| 57958 | C5136342 | 5340-01-308-3851 | 5 | 2 |
| 57958 | C5136357 | 2590-01-307-9302 | 16 | 4 |
| 57958 | C5136359 | 2590-01-307-9303 | 16 | 1 |
| 57958 | C5136360 | | 12 | 7 |
| 57958 | C5136361 | | 12 | 19 |
| 57958 | C5136365 | | 2 | 3 |
| 57958 | C5136366 | 6150-01-304-2245 | 3 | 1 |
| 57958 | C5136367 | | 4 | 1 |
| 57958 | C5136368-1 | | 26 | 50 |
| 57958 | C5136368-2 | | 26 | 44 |

| SECTION IV. | | TM9-2320-362-14&P | | |
|----------------------------|-----------------------|-------------------|-----|------|
| PART NUMBER INDEX (CONT'D) | | | | |
| CAGE | PART NUMBER | STOCK NUMBER | FIG | ITEM |
| 57958 | C5136372 | 5340-01-308-8237 | 15 | 11 |
| 57958 | C5136373 | 5340-01-310-1115 | 15 | 3 |
| 57958 | C5136382 | | 24 | 1 |
| 57958 | C5136383 | | 24 | 2 |
| 57958 | C5136384 | | 24 | 3 |
| 55719 | FAM6A | 5120-01-055-1308 | 27 | 7 |
| 74193 | GJ1P-B3-P-E-DU-250-1 | 5925-01-293-9930 | 26 | 36 |
| 57163 | H0212 | 3455-01-196-0636 | 27 | 5 |
| 81349 | LC35BT2 | 6210-00-401-9796 | 26 | 14 |
| 28959 | LVDDF-2216T-250A | | 25 | 10 |
| 81349 | MIL-W-530, TYIIA, CL4 | 8305-01-263-3626 | 15 | 6 |
| 96906 | MS15795-514 | 5310-00-596-7599 | 26 | 27 |
| 96906 | MS15795-808 | 5310-00-619-1148 | 2 | 4 |
| | | | 26 | 17 |
| 96906 | MS15795-810 | 5310-00-582-5677 | 1 | 2 |
| | | | 13 | 9 |
| | | | 15 | 1 |
| 96906 | MS15795-815 | 5310-00-595-6057 | 19 | 16 |
| 96906 | MS15795-841 | 5310-00-225-5328 | 25 | 3 |
| 96906 | MS17830-4C | 5310-00-241-6604 | 1 | 3 |
| | | | 16 | 2 |
| 96906 | MS18154-60 | 5305-00-942-2196 | 1 | 8 |
| 96906 | MS21044C06 | 5310-00-982-6813 | 13 | 4 |
| | | | 26 | 22 |
| 96906 | MS21044C3 | 5310-00-208-9255 | 2 | 5 |
| | | | 15 | 10 |
| | | | 26 | 23 |
| 96906 | MS21333-105 | 5340-00-809-1494 | 20 | 10 |
| 96906 | MS21333-123 | 5340-00-989-1771 | 5 | 1 |
| 96906 | MS21333-126 | 5340-00-053-8994 | 20 | 1 |
| 96906 | MS21334-32 | 5340-00-921-6993 | 1 | 5 |
| 96906 | MS25036-105 | 5940-00-143-4773 | 26 | 39 |
| 96906 | MS25036-133 | 5940-00-115-5006 | 26 | 51 |
| 96906 | MS25036-134 | 5940-00-804-0520 | 26 | 45 |
| | | | 26 | 55 |
| 96906 | MS25036-151 | 5940-00-113-8185 | 26 | 32 |
| 96906 | MS27142-2 | 5935-00-462-6603 | 4 | 2 |
| | | | 7 | 4 |
| 96906 | MS27144-1 | 5935-00-167-7775 | 7 | 1 |
| 96906 | MS27144-2 | 5935-00-115-2307 | 3 | 2 |
| | | | 6 | 1 |
| 96906 | MS27147-1 | 5935-00-900-6281 | 6 | 2 |
| | | | 7 | 2 |
| | | | 8 | 2 |
| | | | 9 | 2 |
| | | | 10 | 2 |
| | | | 11 | 2 |
| 96906 | MS27183-10 | 5310-00-809-4058 | 14 | 2 |

| SECTION IV. | | TM9-2320-362-14&P | | |
|--------------------------|--------------|-------------------|------|------|
| PART NUMBER INDEX (CONT) | | | | |
| CAGE | PART NUMBER | STOCK NUMBER | FIG | ITEM |
| 96906 | MS27183-13 | 5310-00-087-7493 | 18 | 3 |
| | | | 19 | 4 |
| 96906 | MS3367-1-9 | 5975-00-074-2072 | 12 | 21 |
| 96906 | MS3367-2-0 | 5975-00-899-4606 | 5 | 4 |
| 96906 | MS3367-3-0 | 5975-00-985-6630 | 12 | 18 |
| | | | 20 | 11 |
| 96906 | MS3367-4-9 | 5975-00-727-5153 | 25 | 9 |
| 96906 | MS3367-5-9 | 5975-00-111-3208 | 12 | 9 |
| 96906 | MS3474W16-8P | 5935-01-222-2270 | 25 | 7 |
| 96906 | MS3474W16-8S | 5935-01-111-4580 | 25 | 11 |
| 96906 | MS3476W16-8S | 5935-01-109-3789 | 3 | 5 |
| 96906 | MS35307-360 | 5305-00-576-5417 | 26 | 25 |
| 96906 | MS35307-362 | 5305-00-717-5467 | 26 | 37 |
| 96906 | MS35338-122 | 5310-00-187-2427 | 26 | 26 |
| 96906 | MS35338-136 | 5310-00-929-6395 | 13 | 6 |
| | | | 26 | 5 |
| 96906 | MS35338-137 | 5310-00-933-8119 | 25 | 4 |
| 96906 | MS35338-138 | 5310-00-933-8120 | 26 | 18 |
| 96906 | MS35338-46 | 5310-00-637-9541 | 18 | 2 |
| | | | 19 | 3 |
| 96906 | MS35338-47 | 5310-00-209-0965 | 19 | 10 |
| 96906 | MS35489-27 | 5325-00-290-1960 | 1 | 6 |
| 96906 | MS35649-2386 | 5310-00-410-3023 | 26 | 33 |
| 96906 | MS35764-853 | 5306-01-276-0848 | 19 | 22 |
| 96906 | MS35764-854 | | 19 | 9 |
| 96906 | MS35825-11A | 5340-01-054-1767 | BULK | 2 |
| 96906 | MS45904-77 | 5310-00-953-8628 | 26 | 43 |
| 96906 | MS51412-2 | 5310-01-234-9416 | 19 | 7 |
| 96906 | MS51412-4 | 5310-01-103-6042 | 12 | 15 |
| 96906 | MS51844-62 | 4030-01-088-2952 | 2 | 8 |
| | | | 12 | 3 |
| | | | 12 | 5 |
| 96906 | MS51861-47C | 5305-00-477-0122 | 1 | 7 |
| 96906 | MS51929-2 | 5340-00-057-6956 | 15 | 7 |
| 96906 | MS51943-31 | 5310-00-061-4650 | 12 | 14 |
| | | | 14 | 12 |
| | | | 15 | 13 |
| 96906 | MS51943-33 | 5310-00-814-0673 | 14 | 11 |
| 96906 | MS51943-35 | 5310-00-935-9021 | 18 | 5 |
| 96906 | MS51957-28 | 5305-00-054-6652 | 13 | 2 |
| | | | 26 | 4 |
| 96906 | MS51957-45 | 5305-00-054-6670 | 25 | 5 |
| 96906 | MS51957-47 | 5305-00-054-6672 | 14 | 5 |
| 96906 | MS51957-81 | 5305-00-082-6721 | 1 | 4 |
| | | | 15 | 2 |
| 96906 | MS51958-64 | 5305-00-059-3660 | 26 | 19 |
| 96906 | MS51959-45 | 5305-00-764-0068 | 26 | 11 |
| 96906 | MS51960-66 | 5305-00-071-1323 | 15 | 12 |

| SECTION IV. | | TM9-2320-362-14&P | | |
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| PART NUMBER INDEX (CONT) | | | | |
| CAGE | PART NUMBER | STOCK NUMBER | FIG | ITEM |
| 96906 | MS9021-136 | 5330-00-618-5904 | 25 | 13 |
| 96906 | MS9021-236 | 5330-00-827-0248 | 25 | 14 |
| 96906 | MS90725-33 | 5306-00-225-8498 | 14 | 8 |
| 96906 | MS90725-6 | 5305-00-068-0502 | 12 | 16 |
| 96906 | MS90725-64 | 5305-00-269-3214 | 18 | 1 |
| 96906 | MS90725-66 | 5305-00-269-3216 | 18 | 6 |
| 96906 | MS90725-8 | 5305-00-225-3839 | 14 | 3 |
| 96906 | MS90728-60 | 5305-00-068-0510 | 19 | 2 |
| 81349 | M13486-1-3 | 6145-00-161-1609 | 3 | 3 |
| 81349 | M13486-1-5 | 6145-00-152-6499 | 4 | 4 |
| 81349 | M13486-1-14 | 6145-00-705-6674 | BULK | 1 |
| | | | 20 | 4 |
| | | | 26 | 46 |
| | | | 26 | 52 |
| 81349 | M16878/4BGE9 | 6145-00-088-0404 | BULK | 8 |
| | | | 26 | 31 |
| | | | 26 | 40 |
| 81349 | M23053/5-109-0 | 5970-00-914-3118 | 3 | 4 |
| 81349 | M23053/5-110-0 | 5970-00-815-1300 | BULK | 3 |
| | | | 26 | 53 |
| 81349 | M23053/5-110-2 | 5970-00-978-7677 | BULK | 5 |
| | | | 26 | 47 |
| 81349 | M23053/5-110-4 | 5970-00-959-6336 | BULK | 6 |
| | | | 26 | 48 |
| | | | 26 | 54 |
| 81349 | M23053/5-112-0 | 5970-00-944-1328 | BULK | 4 |
| 81349 | M43436/1-3 | 9905-00-893-3570 | 2 | 10 |
| 81349 | M83420/2-002 | 4010-01-308-5097 | 2 | 9 |
| 80205 | NAS1022-N08 | 5310-00-721-5447 | 14 | 7 |
| 80063 | SC-C-539965 | | 15 | 9 |
| 59730 | TG11 | 5940-00-705-6711 | 3 | 6 |
| | | | 4 | 5 |
| 59730 | TG33 | 5940-00-735-5520 | 20 | 6 |
| 72794 | TL800-9SS | 5340-01-307-7414 | 13 | 5 |
| | | | 26 | 6 |
| 72794 | TL803BSS | 5340-01-215-9774 | 13 | 3 |
| | | | 26 | 7 |
| 06090 | TMS-WM-00/4 | 5970-01-178-4591 | 3 | 7 |
| | | | 4 | 3 |
| | | | 25 | 8 |
| 81349 | V-T-276, TYPE IIIB | | 15 | 8 |
| 11862 | 11500207 | 5310-01-206-7306 | 18 | 9 |
| | | | 19 | 14 |
| | | | 20 | 2 |
| 24617 | 11500324 | 5310-01-204-6745 | 18 | 13 |
| 11862 | 11502474 | 5310-01-272-2579 | 18 | 8 |
| 24617 | 11502788 | 5306-01-197-1513 | 18 | 14 |
| 19207 | 12338186-62 | | 19 | 17 |
| 19207 | 12338381 | 4720-01-203-7789 | 23 | 1 |

| SECTION IV. | | TM9-2320-362-14&P | | |
|----------------------------|-----------------|-------------------|-----|------|
| PART NUMBER INDEX (CONT'D) | | | | |
| CAGE | PART NUMBER | STOCK NUMBER | FIG | ITEM |
| 19207 | 12338782 | 3020-01-313-0682 | 21 | 1 |
| 19207 | 12338786 | 5340-01-277-4533 | 19 | 18 |
| 19207 | 12338796 | 2920-01-264-6542 | 19 | 23 |
| 19207 | 12339018-1 | | 17 | 2 |
| 19207 | 12339041 | 2510-01-252-4466 | 17 | 1 |
| 19207 | 12339317 | | 20 | 3 |
| 19207 | 12339359-11 | | 18 | 11 |
| 19207 | 12339359-14 | | 21 | 2 |
| 19207 | 12339359-18 | 3030-01-321-4482 | 19 | 1 |
| 19207 | 12339392 | 3020-01-232-9629 | 19 | 24 |
| 19207 | 12339406-2 | 5307-01-291-9018 | 18 | 12 |
| | | | 19 | 15 |
| 19207 | 12339890 | 5340-01-187-0892 | 19 | 25 |
| 19207 | 12339902-7 | 5340-01-272-8391 | 12 | 22 |
| 19207 | 12339906 | 5340-01-272-6634 | 18 | 15 |
| 19207 | 12340046 | | 22 | 2 |
| 19207 | 12340057 | 2920-01-197-5548 | 19 | 5 |
| 19207 | 12340061 | 2930-01-256-5350 | 22 | 1 |
| 19207 | 12340142 | 2590-01-194-2048 | 14 | 10 |
| 19207 | 12340157 | 5340-01-247-7913 | 14 | 1 |
| 19207 | 12340487 | 1015-01-200-0869 | 14 | 6 |
| 19207 | 12340661 | | 18 | 4 |
| 19207 | 12340845-2 | 5306-01-263-8889 | 19 | 19 |
| 19207 | 12340845-3 | | 19 | 21 |
| 19207 | 12341151 | | 19 | 20 |
| 19207 | 12341599 | 5340-01-273-2368 | 18 | 7 |
| 19207 | 12341730 | 5340-01-273-1721 | 12 | 17 |
| 19207 | 12341809 | 3040-01-270-9466 | 19 | 6 |
| 19207 | 12341971-1 | | 12 | 11 |
| 19207 | 12341971-2 | | 12 | 13 |
| 19207 | 12341984-2 | 5330-01-265-8809 | 12 | 10 |
| 19207 | 12341984-4 | | 12 | 12 |
| 19207 | 12342075 | 5340-01-293-0125 | 19 | 12 |
| 19738 | 1601-0619 | 5320-00-005-1051 | 13 | 7 |
| | | | 26 | 3 |
| 24617 | 2436162 | 5310-01-119-1024 | 14 | 9 |
| 11862 | 2436164 | 5310-00-809-4085 | 19 | 11 |
| 03895 | 26 | 3455-00-335-3045 | 27 | 3 |
| 11862 | 271172 | 5310-01-152-0598 | 20 | 9 |
| 59197 | 331-504 | 6645-01-300-9392 | 25 | 12 |
| 59197 | 333-508 | 6680-01-294-6535 | 25 | 15 |
| 60602 | 35825 | 2590-01-307-9384 | 16 | 3 |
| 72653 | 36-470S | 6625-00-444-4041 | 27 | 6 |
| 72619 | 367-8430-09-503 | 6120-00-176-4928 | 26 | 12 |
| 39428 | 3906T12 | 2540-00-875-9587 | 2 | 11 |
| 76786 | 4106 | 5340-00-523-6418 | 15 | 5 |
| 82386 | 410-63 | 5305-00-582-9501 | 19 | 8 |
| 13445 | 46211-03 | 5940-01-180-3655 | 26 | 24 |
| 40684 | 542 | 3455-00-222-4143 | 27 | 4 |

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|-------------------------------|--------------|------------------|------|------|
| PART NUMBER INDEX (CONT'D) | | | | |
| CAGE | PART NUMBER | STOCK NUMBER | FIG | ITEM |
| 99771 | 5582481 | 5975-01-208-9618 | 20 | 5 |
| | | | 26 | 49 |
| 19207 | 7056640 | 5970-01-174-9449 | 20 | 7 |
| 26289 | 730-3-4-13-4 | 5110-00-062-0883 | 27 | 1 |
| 03938 | 818 | 5640-00-435-4440 | BULK | 7 |
| | | | 12 | 8 |
| | | | 12 | 20 |
| 19207 | 8741492 | 5935-00-807-4109 | 6 | 3 |
| | | | 7 | 3 |
| | | | 8 | 1 |
| | | | 9 | 1 |
| | | | 10 | 1 |
| | | | 11 | 1 |
| K1076 | 9145-105-00B | 5310-01-127-2456 | 18 | 10 |
| | | | 19 | 13 |
| | | | 20 | 8 |
| 11862 | 9423534 | 5310-01-213-4192 | 14 | 4 |

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| FIG | ITEM | STOCK NUMBER | CAGE | PART NUMBER |
|------|------|------------------|-------|----------------|
| BULK | 1 | 6145-00-705-6674 | 81349 | M13486-1-14 |
| BULK | 2 | 5340-01-054-1767 | 96906 | MS35825-11A |
| BULK | 3 | 5970-00-815-1300 | 81349 | M23053/5-110-0 |
| BULK | 4 | 5970-00-944-1328 | 81349 | M23053/5-112-0 |
| BULK | 5 | 5970-00-978-7677 | 81349 | M23053/5-110-2 |
| BULK | 6 | 5970-00-959-6336 | 81349 | M23053/5-110-4 |
| BULK | 7 | 5640-00-435-4440 | 03938 | 818 |
| BULK | 8 | 6145-00-088-0404 | 81349 | M16878/4BGE9 |
| 1 | 1 | 5925-01-304-2256 | 57958 | C5136320 |
| 1 | 2 | 5310-00-582-5677 | 96906 | MS15795-810 |
| 1 | 3 | 5310-00-241-6604 | 96906 | MS17830-4C |
| 1 | 4 | 5305-00-082-6721 | 96906 | MS51957-81 |
| 1 | 5 | 5340-00-921-6993 | 96906 | MS21334-32 |
| 1 | 6 | 5325-00-290-1960 | 96906 | MS35489-27 |
| 1 | 7 | 5305-00-477-0122 | 96906 | MS51861-47C |
| 1 | 8 | 5305-00-942-2196 | 96906 | MS18154-60 |
| 2 | 1 | 5330-01-308-4273 | 57958 | C5136339 |
| 2 | 2 | | 57958 | C5136334 |
| 2 | 3 | | 57958 | C5136365 |
| 2 | 4 | 5310-00-619-1148 | 96906 | MS15795-808 |
| 2 | 5 | 5310-00-208-9255 | 96906 | MS21044C3 |
| 2 | 6 | 4010-01-308-9168 | 57958 | C5136341 |
| 2 | 7 | 5340-01-309-3758 | 57958 | C5135948-1 |
| 2 | 8 | 4030-01-088-2952 | 96906 | MS51844-62 |
| 2 | 9 | 4010-01-308-5097 | 81349 | M83420/2-002 |
| 2 | 10 | 9905-00-893-3570 | 81349 | M43436/1-3 |
| 2 | 11 | 2540-00-875-9587 | 39428 | 3906T12 |
| 3 | 1 | 6150-01-304-2245 | 57958 | C5136366 |
| 3 | 2 | 5935-00-115-2307 | 96906 | MS27144-2 |
| 3 | 3 | 6145-00-161-1609 | 81349 | M13486-1-3 |
| 3 | 4 | 5970-00-914-3118 | 81349 | M23053/5-109-0 |
| 3 | 5 | 5935-01-109-3789 | 96906 | MS3476W16-8S |
| 3 | 6 | 5940-00-705-6711 | 59730 | TG11 |
| 3 | 7 | 5970-01-178-4591 | 06090 | TMS-WM-00/4 |
| 4 | 1 | | 57958 | C5136367 |
| 4 | 2 | 5935-00-462-6603 | 96906 | MS27142-2 |
| 4 | 3 | 5970-01-178-4591 | 06090 | TMS-WM-00/4 |
| 4 | 4 | 6145-00-152-6499 | 81349 | M13486-1-5 |
| 4 | 5 | 5940-00-705-6711 | 59730 | TG11 |
| 5 | 1 | 5340-00-989-1771 | 96906 | MS21333-123 |
| 5 | 2 | 5340-01-308-3851 | 57958 | C5136342 |
| 5 | 3 | 5305-01-285-4883 | 80204 | B18231A10020NF |
| 5 | 4 | 5975-00-899-4606 | 96906 | MS3367-2-0 |
| 6 | 1 | 5935-00-115-2307 | 96906 | MS27144-2 |
| 6 | 2 | 5935-00-900-6281 | 96906 | MS27147-1 |
| 6 | 3 | 5935-00-807-4109 | 19207 | 8741492 |

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FIGURE AND ITEM NUMBER INDEX (CONT)

| FIG | ITEM | STOCK NUMBER | CAGE | PART NUMBER |
|-----|------|------------------|-------|-------------|
| 7 | 1 | 5935-00-167-7775 | 96906 | MS27144-1 |
| 7 | 2 | 5935-00-900-6281 | 96906 | MS27147-1 |
| 7 | 3 | 5935-00-807-4109 | 19207 | 8741492 |
| 7 | 4 | 5935-00-462-6603 | 96906 | MS27142-2 |
| 8 | 1 | 5935-00-807-4109 | 19207 | 8741492 |
| 8 | 2 | 5935-00-900-6281 | 96906 | MS27147-1 |
| 9 | 1 | 5935-00-807-4109 | 19207 | 8741492 |
| 9 | 2 | 5935-00-900-6281 | 96906 | MS27147-1 |
| 10 | 1 | 5935-00-807-4109 | 19207 | 8741492 |
| 10 | 2 | 5935-00-900-6281 | 96906 | MS27147-1 |
| 11 | 1 | 5935-00-807-4109 | 19207 | 8741492 |
| 11 | 2 | 5935-00-900-6281 | 96906 | MS27147-1 |
| 12 | 1 | | 57958 | C5136153-5 |
| 12 | 2 | 5340-01-319-1432 | 57958 | C5136163 |
| 12 | 3 | 4030-01-088-2952 | 96906 | MS51844-62 |
| 12 | 4 | 5340-01-319-1431 | 57958 | C5136162 |
| 12 | 5 | 4030-01-088-2952 | 96906 | MS51844-62 |
| 12 | 6 | | 57958 | C5136152-5 |
| 12 | 7 | | 57958 | C5136360 |
| 12 | 8 | 5640-00-435-4440 | 03938 | 818 |
| 12 | 9 | 5975-00-111-3208 | 96906 | MS3367-5-9 |
| 12 | 10 | 5330-01-265-8809 | 19207 | 12341984-2 |
| 12 | 11 | | 19207 | 12341971-1 |
| 12 | 12 | | 19207 | 12341984-4 |
| 12 | 13 | | 19207 | 12341971-2 |
| 12 | 14 | 5310-00-061-4650 | 96906 | MS51943-31 |
| 12 | 15 | 5310-01-103-6042 | 96906 | MS51412-4 |
| 12 | 16 | 5305-00-068-0502 | 96906 | MS90725-6 |
| 12 | 17 | 5340-01-273-1721 | 19207 | 12341730 |
| 12 | 18 | 5975-00-985-6630 | 96906 | MS3367-3-0 |
| 12 | 19 | | 57958 | C5136361 |
| 12 | 20 | 5640-00-435-4440 | 03938 | 818 |
| 12 | 21 | 5975-00-074-2072 | 96906 | MS3367-1-9 |
| 12 | 22 | 5340-01-272-8391 | 19207 | 12339902-7 |
| 13 | 1 | 2540-01-308-9167 | 57958 | C5136310 |
| 13 | 2 | 5305-00-054-6652 | 96906 | MS51957-28 |
| 13 | 3 | 5340-01-215-9774 | 72794 | TL803BSS |
| 13 | 4 | 5310-00-982-6813 | 96906 | MS21044C06 |
| 13 | 5 | 5340-01-307-7414 | 72794 | TL800-9SS |
| 13 | 6 | 5310-00-929-6395 | 96906 | MS35338-136 |
| 13 | 7 | 5320-00-005-1051 | 19738 | 1601-0619 |
| 13 | 8 | 5340-01-308-1542 | 57958 | C5136309 |
| 13 | 9 | 5310-00-582-5677 | 96906 | MS15795-810 |

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FIGURE AND ITEM NUMBER INDEX (CONT'D)

| FIG | ITEM | STOCK NUMBER | CAGE | PART NUMBER |
|-----|------|------------------|-------|-----------------------|
| 14 | 1 | 5340-01-247-7913 | 19207 | 12340157 |
| 14 | 2 | 5310-00-809-4058 | 96906 | MS27183-10 |
| 14 | 3 | 5305-00-225-3839 | 96906 | MS90725-8 |
| 14 | 4 | 5310-01-213-4192 | 11862 | 9423534 |
| 14 | 5 | 5305-00-054-6672 | 96906 | MS51957-47 |
| 14 | 6 | 1015-01-200-0869 | 19207 | 12340487 |
| 14 | 7 | 5310-00-721-5447 | 80205 | NAS1022-N08 |
| 14 | 8 | 5306-00-225-8498 | 96906 | MS90725-33 |
| 14 | 9 | 5310-01-119-1024 | 24617 | 2436162 |
| 14 | 10 | 2590-01-194-2048 | 19207 | 12340142 |
| 14 | 11 | 5310-00-814-0673 | 96906 | MS51943-33 |
| 14 | 12 | 5310-00-061-4650 | 96906 | MS51943-31 |
| 15 | 1 | 5310-00-582-5677 | 96906 | MS15795-810 |
| 15 | 2 | 5305-00-082-6721 | 96906 | MS51957-81 |
| 15 | 3 | 5340-01-310-1115 | 57958 | C5136373 |
| 15 | 4 | | 57958 | C5135967 |
| 15 | 5 | 5340-00-523-6418 | 76786 | 4106 |
| 15 | 6 | 8305-01-263-3626 | 81349 | MIL-W-530, TYIIA, CL4 |
| 15 | 7 | 5340-00-057-6956 | 96906 | MS51929-2 |
| 15 | 8 | | 81349 | V-T-276, TYPE IIIB |
| 15 | 9 | | 80063 | SC-C-539965 |
| 15 | 10 | 5310-00-208-9255 | 96906 | MS21044C3 |
| 15 | 11 | 5340-01-308-8237 | 57958 | C5136372 |
| 15 | 12 | 5305-00-071-1323 | 96906 | MS51960-66 |
| 15 | 13 | 5310-00-061-4650 | 96906 | MS51943-31 |
| 16 | 1 | 2590-01-307-9303 | 57958 | C5136359 |
| 16 | 2 | 5310-00-241-6604 | 96906 | MS17830-4C |
| 16 | 3 | 2590-01-307-9384 | 60602 | 35825 |
| 16 | 4 | 2590-01-307-9302 | 57958 | C5136357 |
| 17 | 1 | 2510-01-252-4466 | 19207 | 12339041 |
| 17 | 2 | | 19207 | 12339018-1 |
| 18 | 1 | 5305-00-269-3214 | 96906 | MS90725-64 |
| 18 | 2 | 5310-00-637-9541 | 96906 | MS35338-46 |
| 18 | 3 | 5310-00-087-7493 | 96906 | MS27183-13 |
| 18 | 4 | | 19207 | 12340661 |
| 18 | 5 | 5310-00-935-9021 | 96906 | MS51943-35 |
| 18 | 6 | 5305-00-269-3216 | 96906 | MS90725-66 |
| 18 | 7 | 5340-01-273-2368 | 19207 | 12341599 |
| 18 | 8 | 5310-01-272-2579 | 11862 | 11502474 |
| 18 | 9 | 5310-01-206-7306 | 11862 | 11500207 |
| 18 | 10 | 5310-01-127-2456 | K1076 | 9145-105-00B |
| 18 | 11 | | 19207 | 12339359-11 |
| 18 | 12 | 5307-01-291-9018 | 19207 | 12339406-2 |
| 18 | 13 | 5310-01-204-6745 | 24617 | 11500324 |
| 18 | 14 | 5306-01-197-1513 | 24617 | 11502788 |
| 18 | 15 | 5340-01-272-6634 | 19207 | 12339906 |

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FIGURE AND ITEM NUMBER INDEX (CONT'D)

| FIG | ITEM | STOCK NUMBER | CAGE | PART NUMBER |
|-----|------|------------------|-------|--------------|
| 19 | 1 | 3030-01-321-4482 | 19207 | 12339359-18 |
| 19 | 2 | 5305-00-068-0510 | 96906 | MS90728-60 |
| 19 | 3 | 5310-00-637-9541 | 96906 | MS35338-46 |
| 19 | 4 | 5310-00-087-7493 | 96906 | MS27183-13 |
| 19 | 5 | 2920-01-197-5548 | 19207 | 12340057 |
| 19 | 6 | 3040-01-270-9466 | 19207 | 12341809 |
| 19 | 7 | 5310-01-234-9416 | 96906 | MS51412-2 |
| 19 | 8 | 5305-00-582-9501 | 82386 | 410-63 |
| 19 | 9 | | 96906 | MS35764-854 |
| 19 | 10 | 5310-00-209-0965 | 96906 | MS35338-47 |
| 19 | 11 | 5310-00-809-4085 | 11862 | 2436164 |
| 19 | 12 | 5340-01-293-0125 | 19207 | 12342075 |
| 19 | 13 | 5310-01-127-2456 | K1076 | 9145-105-00B |
| 19 | 14 | 5310-01-206-7306 | 11862 | 11500207 |
| 19 | 15 | 5307-01-291-9018 | 19207 | 12339406-2 |
| 19 | 16 | 5310-00-595-6057 | 96906 | MS15795-815 |
| 19 | 17 | | 19207 | 12338186-62 |
| 19 | 18 | 5340-01-277-4533 | 19207 | 12338786 |
| 19 | 19 | 5306-01-263-8889 | 19207 | 12340845-2 |
| 19 | 20 | | 19207 | 12341151 |
| 19 | 21 | | 19207 | 12340845-3 |
| 19 | 22 | 5306-01-276-0848 | 96906 | MS35764-853 |
| 19 | 23 | 2920-01-264-6542 | 19207 | 12338796 |
| 19 | 24 | 3020-01-232-9629 | 19207 | 12339392 |
| 19 | 25 | 5340-01-187-0892 | 19207 | 12339890 |
| 20 | 1 | 5340-00-053-8994 | 96906 | MS21333-126 |
| 20 | 2 | 5310-01-206-7306 | 11862 | 11500207 |
| 20 | 3 | | 19207 | 12339317 |
| 20 | 4 | 6145-00-705-6674 | 81349 | M13486-1-14 |
| 20 | 5 | 5975-01-208-9618 | 99771 | 5582481 |
| 20 | 6 | 5940-00-735-5520 | 59730 | TG33 |
| 20 | 7 | 5970-01-174-9449 | 19207 | 7056640 |
| 20 | 8 | 5310-01-127-2456 | K1076 | 9145-105-00B |
| 20 | 9 | 5310-01-152-0598 | 11862 | 271172 |
| 20 | 10 | 5340-00-809-1494 | 96906 | MS21333-105 |
| 20 | 11 | 5975-00-985-6630 | 96906 | MS3367-3-0 |
| 21 | 1 | 3020-01-313-0682 | 19207 | 12338782 |
| 21 | 2 | | 19207 | 12339359-14 |
| 22 | 1 | 2930-01-256-5350 | 19207 | 12340061 |
| 22 | 2 | | 19207 | 12340046 |
| 23 | 1 | 4720-01-203-7789 | 19207 | 12338381 |

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| FIG | ITEM | STOCK NUMBER | CAGE | PART NUMBER |
|-----|------|------------------|-------|------------------|
| 24 | 1 | | 57958 | C5136382 |
| 24 | 2 | | 57958 | C5136383 |
| 24 | 3 | | 57958 | C5136384 |
| 25 | 1 | 5330-01-309-4340 | 57958 | C5136338 |
| 25 | 2 | 5340-01-308-2168 | 57958 | C5136336 |
| 25 | 3 | 5310-00-225-5328 | 96906 | MS15795-841 |
| 25 | 4 | 5310-00-933-8119 | 96906 | MS35338-137 |
| 25 | 5 | 5305-00-054-6670 | 96906 | MS51957-45 |
| 25 | 6 | 2920-01-307-4789 | 57958 | C5136337 |
| 25 | 7 | 5935-01-222-2270 | 96906 | MS3474W16-8P |
| 25 | 8 | 5970-01-178-4591 | 06090 | TMS-WM-00/4 |
| 25 | 9 | 5975-00-727-5153 | 96906 | MS3367-4-9 |
| 25 | 10 | | 28959 | LVDDF-2216T-250A |
| 25 | 11 | 5935-01-111-4580 | 96906 | MS3474W16-8S |
| 25 | 12 | 6645-01-300-9392 | 59197 | 331-504 |
| 25 | 13 | 5330-00-618-5904 | 96906 | MS9021-136 |
| 25 | 14 | 5330-00-827-0248 | 96906 | MS9021-236 |
| 25 | 15 | 6680-01-294-6535 | 59197 | 333-508 |
| 25 | 16 | 2510-01-313-8061 | 57958 | C5136335 |
| 26 | 1 | | 57958 | C5136314 |
| 26 | 2 | | 57958 | C5136313 |
| 26 | 3 | 5320-00-005-1051 | 19738 | 1601-0619 |
| 26 | 4 | 5305-00-054-6652 | 96906 | MS51957-28 |
| 26 | 5 | 5310-00-929-6395 | 96906 | MS35338-136 |
| 26 | 6 | 5340-01-307-7414 | 72794 | TL800-9SS |
| 26 | 7 | 5340-01-215-9774 | 72794 | TL803BSS |
| 26 | 8 | 9905-01-304-6921 | 57958 | C5136136 |
| 26 | 9 | 5330-01-307-7084 | 57958 | C5136331 |
| 26 | 10 | | 57958 | C5136330 |
| 26 | 11 | 5305-00-764-0068 | 96906 | MS51959-45 |
| 26 | 12 | 6120-00-176-4928 | 72619 | 367-8430-09-503 |
| 26 | 13 | 6240-00-155-7836 | 13182 | A580-10190 |
| 26 | 14 | 6210-00-401-9796 | 81349 | LC35BT2 |
| 26 | 15 | | 57958 | C5136302 |
| 26 | 16 | 5975-01-309-1794 | 57958 | C5136327 |
| 26 | 17 | 5310-00-619-1148 | 96906 | MS15795-808 |
| 26 | 18 | 5310-00-933-8120 | 96906 | MS35338-138 |
| 26 | 19 | 5305-00-059-3660 | 96906 | MS51958-64 |
| 26 | 20 | | 57958 | C5136321 |
| 26 | 21 | | 57958 | C5136311 |

SECTION IV. TM9-2320-362-14&P
FIGURE AND ITEM NUMBER INDEX (CONT)

| FIG | ITEM | STOCK NUMBER | CAGE | PART NUMBER |
|-----|------|------------------|-------|----------------------|
| 26 | 22 | 5310-00-982-6813 | 96906 | MS21044C06 |
| 26 | 23 | 5310-00-208-9255 | 96906 | MS21044C3 |
| 26 | 24 | 5940-01-180-3655 | 13445 | 46211-03 |
| 26 | 25 | 5305-00-576-5417 | 96906 | MS35307-360 |
| 26 | 26 | 5310-00-187-2427 | 96906 | MS35338-122 |
| 26 | 27 | 5310-00-596-7599 | 96906 | MS15795-514 |
| 26 | 28 | 6150-01-308-3956 | 57958 | C5136324 |
| 26 | 29 | 6150-01-308-5727 | 57958 | C5136325 |
| 26 | 30 | | 57958 | C5136333 |
| 26 | 31 | 6145-00-088-0404 | 81349 | M16878/4BGE9 |
| 26 | 32 | 5940-00-113-8185 | 96906 | MS25036-151 |
| 26 | 33 | 5310-00-410-3023 | 96906 | MS35649-2386 |
| 26 | 34 | 6150-01-309-6453 | 57958 | C5136323 |
| 26 | 35 | 6150-01-308-5317 | 57958 | C5136326 |
| 26 | 36 | 5925-01-293-9930 | 74193 | GJ1P-B3-P-E-DU-250-1 |
| 26 | 37 | 5305-00-717-5467 | 96906 | MS35307-362 |
| 26 | 38 | | 57958 | C5136332 |
| 26 | 39 | 5340-00-143-4773 | 96906 | MS25036-105 |
| 26 | 40 | 6145-00-088-0404 | 81349 | M16878/4BGE9 |
| 26 | 41 | 6150-01-308-5728 | 57958 | C5136328 |
| 26 | 42 | 6150-01-308-3955 | 57958 | C5136322 |
| 26 | 43 | 5310-00-953-8628 | 96906 | MS45904-77 |
| 26 | 44 | | 57958 | C5136368-2 |
| 26 | 45 | 5940-00-804-0520 | 96906 | MS25036-134 |
| 26 | 46 | 6145-00-705-6674 | 81349 | M13486-1-14 |
| 26 | 47 | 5970-00-978-7677 | 81349 | M23053/5-110-2 |
| 26 | 48 | 5970-00-959-6336 | 81349 | M23053/5-110-4 |
| 26 | 49 | 5975-01-208-9618 | 99771 | 5582481 |
| 26 | 50 | | 57958 | C5136368-1 |
| 26 | 51 | 5940-00-115-5006 | 96906 | MS25036-133 |
| 26 | 52 | 6145-00-705-6674 | 81349 | M13486-1-14 |
| 26 | 53 | 5970-00-815-1300 | 81349 | M23053/5-110-0 |
| 26 | 54 | 5970-00-959-6336 | 81349 | M23053/5-110-4 |
| 26 | 55 | 5940-00-804-0520 | 96906 | MS25036-134 |
| 27 | 1 | 5110-00-062-0883 | 26289 | 730-3-4-13-4 |
| 27 | 2 | 3460-00-540-1291 | 58536 | A-A-51135 STYLE X |
| 27 | 3 | 3455-00-335-3045 | 03895 | 26 |
| 27 | 4 | 3455-00-222-4143 | 40684 | 542 |
| 27 | 5 | 3455-01-196-0636 | 57163 | H0212 |
| 27 | 6 | 6625-00-444-4041 | 72653 | 36-470S |
| 27 | 7 | 5120-01-055-1308 | 55719 | FAM6A |
| 27 | 8 | 5120-00-229-2774 | 55719 | AN8508-19 |
| 27 | 9 | 5120-00-238-8266 | 55719 | AN8508-8 |

APPENDIX E
ILLUSTRATED LIST OF MANUFACTURED ITEMS

Section I. INTRODUCTION

E-1 SCOPE

This appendix includes complete instructions for making items authorized to be manufactured or fabricated at organizational, direct support, and general support level of maintenance.

E-2. GENERAL

- a. A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria.
- b. All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list on the illustration.

Table E-1. Manufactured Items Part Number Index

| PART NUMBER | FIGURE NO. |
|--------------------|-------------------|
| C5135967 | E-5 |
| C5136333 | E-2 |
| C5136332 | E-2 |
| C5136368-1 | E-4 |
| C5136368-2 | E-4 |
| FC184-06 | E-1 |
| M13486/1-14 | E-4 |
| M16878/4BGE9 | E-2 |
| MS5036-105 | E-2 |
| MS25036-133 | E-4 |
| MS325036-134 | E-4 |
| MS35825-11A | E-3 |
| MS51929-2 | E-5 |
| SC-C-539965 | E-5 |
| 12339317 | E-6 |
| 125HBL-5-2 | E-1 |
| 190111-6S | E-1 |
| 325-004 | E-1 |
| 4106 | E-5 |

Section II. ILLUSTRATED MANUFACTURING INSTRUCTIONS

| MATERIAL BLOCK | | |
|---|-------------------|------------------|
| STOCK SIZE | DESCRIPTION | SPECIFICATION |
| 0.310 IN, INSIDE DIAMETER 0.670 IN. OUTSIDE DIAMETER | HOSE, NONMETALLIC | 81343-SAE, J1402 |

| AIR HOSE CONNECTOR | | | | |
|------------------------|---------------------------|----------------------------------|-------------------------------------|----------------------------|
| HOSE PART NUMBER | CUT LENGTH (INCHES) | MANUFACTURED FROM PART NUMBER | STRAIGHT ADAPTERS PART NUMBER | HOSE CLAMPS PART NUMBER |
| | 12 | FC184-06 | 125HBL-5-2 190111-6S | 325-004 |

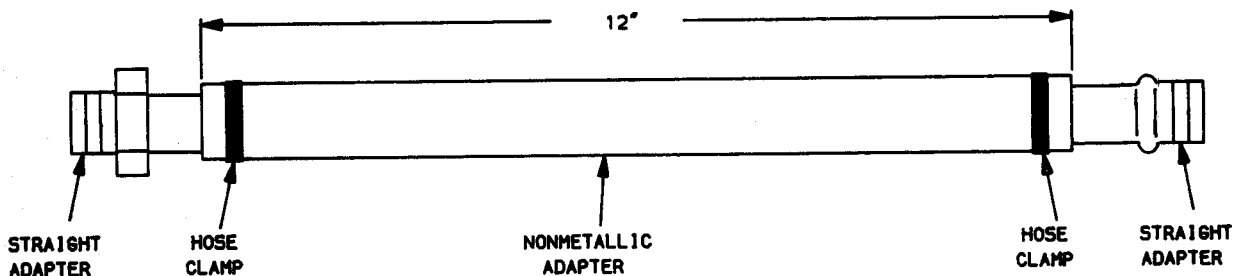


Figure E-1. Air Hose Connector

INSTRUCTIONS:

1. Cut 12 inches of hose from bulk as shown.
2. Install hose clamps on hose. Do not tighten.
3. Install straight adapters into ends of hose and secure with hose clamps.

Section II. ILLUSTRATED MANUFACTURING INSTRUCTIONS (Cont'd)

| MATERIAL BLOCK | | |
|----------------|-----------------|---------------|
| STOCK SIZE | DESCRIPTION | SPECIFICATION |
| NO. 20 AWG | WIRE, INSULATED | TYPE E, WHT |

| WIRE ASSEMBLIES | | | |
|------------------------------|------------------------|---|------------------------------------|
| WIRE ASSEMBLY PART NUMBER | CUT LENGTH (INCHES) | MANUFACTURED FROM PART NUMBER (CAGE) | TERMINAL LUG PART NUMBER (CAGE) |
| C5136333 | 7-29/32 | M16878/4BGE9 (81349) | MS25036-151 (96906) |
| C5136332 | 12-1/2 | M16878/4BGE9 (81349) | MS25036-105 (96906) |

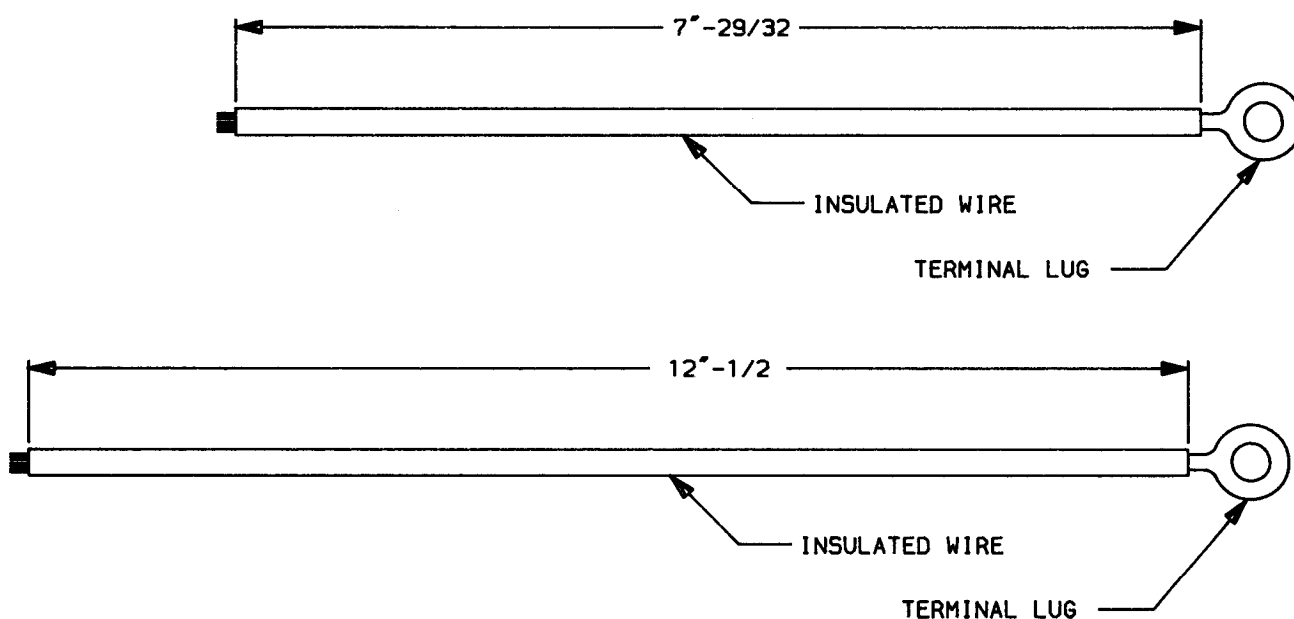


Figure E-2. Wire Assemblies

INSTRUCTIONS:

1. Determine wire assembly part number needed from RPSTL and cut to length as shown.
2. Strip insulation 1/4-inch from end of wire.
3. Place terminal lug over end of wire and crimp in place.

Section II. ILLUSTRATED MANUFACTURING INSTRUCTIONS (Cont'd)

| MATERIAL BLOCK | | |
|------------------------------|------------------------------------|---------------|
| STOCK SIZE | DESCRIPTION | SPECIFICATION |
| 2 INCH WIDE, 84 INCH LONG | HINGE, BUTT, CONTINUOUS (PIANO) | MS35825 |

| HINGES | | |
|----------------------------|------------------------|---|
| HINGE PART NUMBER(CAGE) | CUT LENGTH (INCHES) | MANUFACTURED FROM PART NUMBER (CAGE) |
| MS35825-11A (96906) | 10-1/2 | MS35825-11A (96906) |
| MS35825-11A (96906) | 22 | MS35825-11A (96906) |

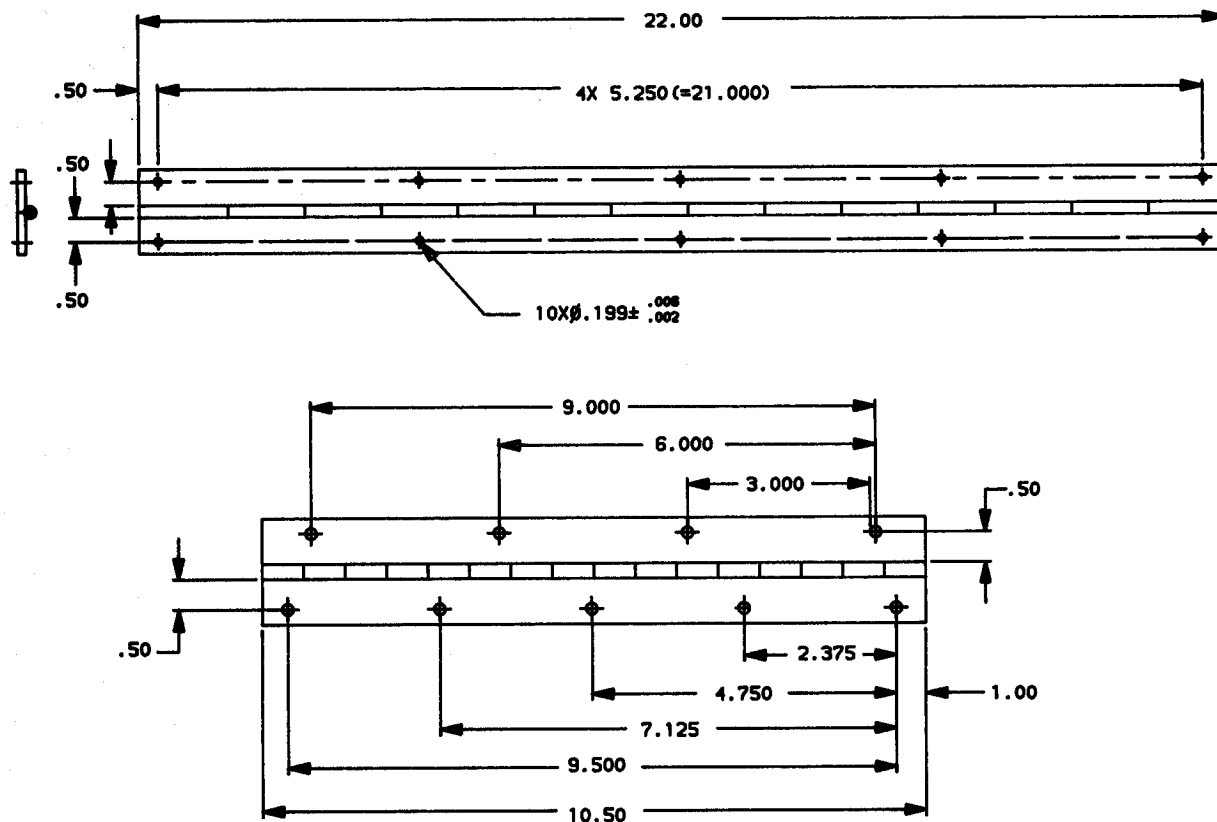


Figure E-3. Hinges

Section II. ILLUSTRATED MANUFACTURING INSTRUCTIONS (Cont'd)

INSTRUCTIONS:

1. Determine hinge part number needed from RPSTL and cut to length as shown.
2. Determine center of holes as shown.
3. Using 13/64-inch drill bit, drill holes.

Section II. ILLUSTRATED MANUFACTURING INSTRUCTIONS (Cont'd)

| MATERIAL BLOCK | | |
|----------------|-------------|----------------|
| STOCK SIZE | DESCRIPTION | SPECIFICATION |
| 1/0 AWG | CABLE | MIL-C-13486/1A |

| POWER CABLES | | | |
|-----------------------------|------------------------|--|------------------------------------|
| POWER CABLES PART NUMBER | CUT LENGTH (INCHES) | MANUFACTURED FROM PART NUMBER(CAGE) | TERMINAL LUGS PART NUMBER(CAGE) |
| C5136368-1 | 50 | M13486/1-14 (81349) | MS25036-134 (96906) |
| C5136368-2 | 63 | M13486/1-14 (81349) | MS25036-133 (96906) |

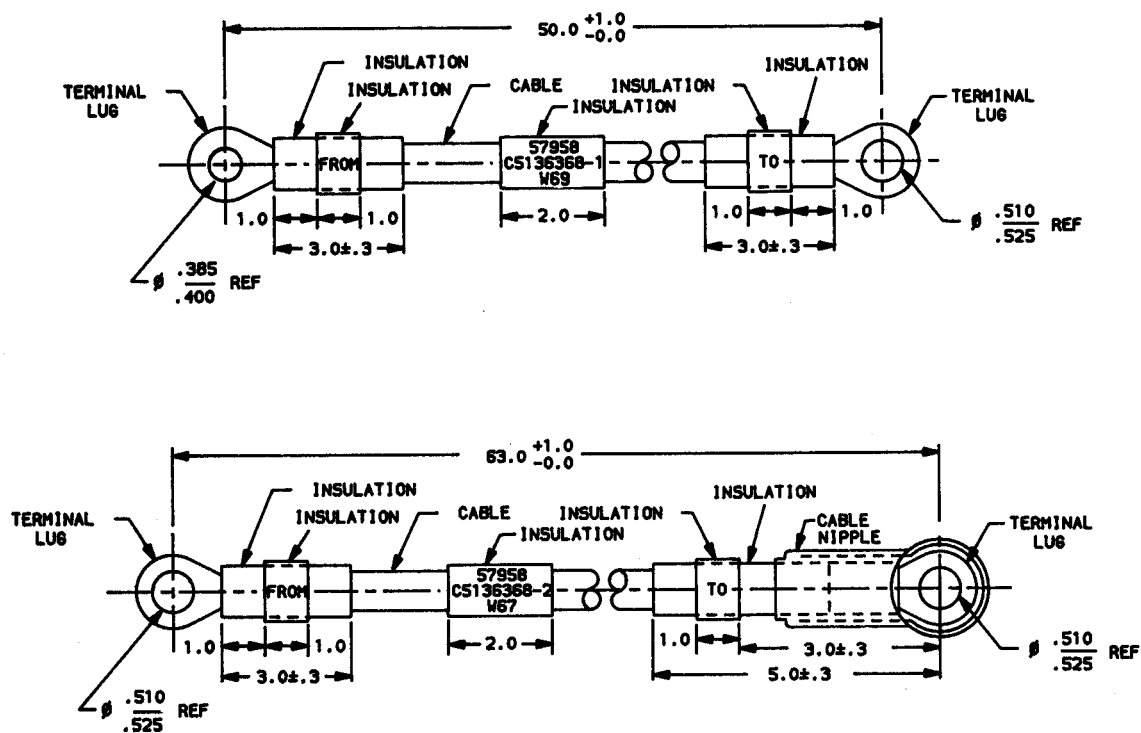


Figure E-4. Power Cables

Section II. ILLUSTRATED MANUFACTURING INSTRUCTIONS (Cent'd)

INSTRUCTIONS:

1. Determine power cable part number needed from RPSTL and cut to length as shown.
2. Cut the following heat shrink from bulk:
 - a. One 2 inch,
 - b. Two 3 inch, and
 - c. Two 1 inch.
3. Select and install one terminal lug to cable end as shown.
4. Select and install proper heat shrink as shown (use gun type heater P/N CV-5700)
5. Select and install proper electrical cable nipple as shown.
6. Select and install other terminal lug to cable end as shown.
7. Mark and install identification bands using old cable as reference.

Section II. ILLUSTRATED MANUFACTURING INSTRUCTIONS (Cont'd)

| MATERIAL BLOCK | | |
|----------------|---|-----------------------|
| STOCK SIZE | DESCRIPTION | SPECIFICATION |
| 1.00 INCH WIDE | WEBBING, TEXTILE, COTTON, TYPE IIa, CLASS 4, OLIVE DRAB NO. 7 | MIL-W-530 |
| | COTTON THREAD, TYPE IIIB, 10/3, SHADE S-1, VAT GREEN 3 TREATED PER MIL-T-3530 TYPE 1, CLASS 1 | V-T-276 MIL-T-3530 |

| LADDER STRAP ASSEMBLY | | | | |
|---|-----------------|---------------------------------------|---------------------------------|------------------------------------|
| LADDER STRAP ASSEMBLY PART NUMBER | CUT (INCHES) | FOOTMAN LOOP PART NUMBER (CAGE) | BUCKLE PART NUMBER (GAGE) | BRASS TIP PART NUMBER (CAGE) |
| C5135967 | 25 | SC-C-539965 (80063) | MS51929-2 (96906) | 4106 (96906) |

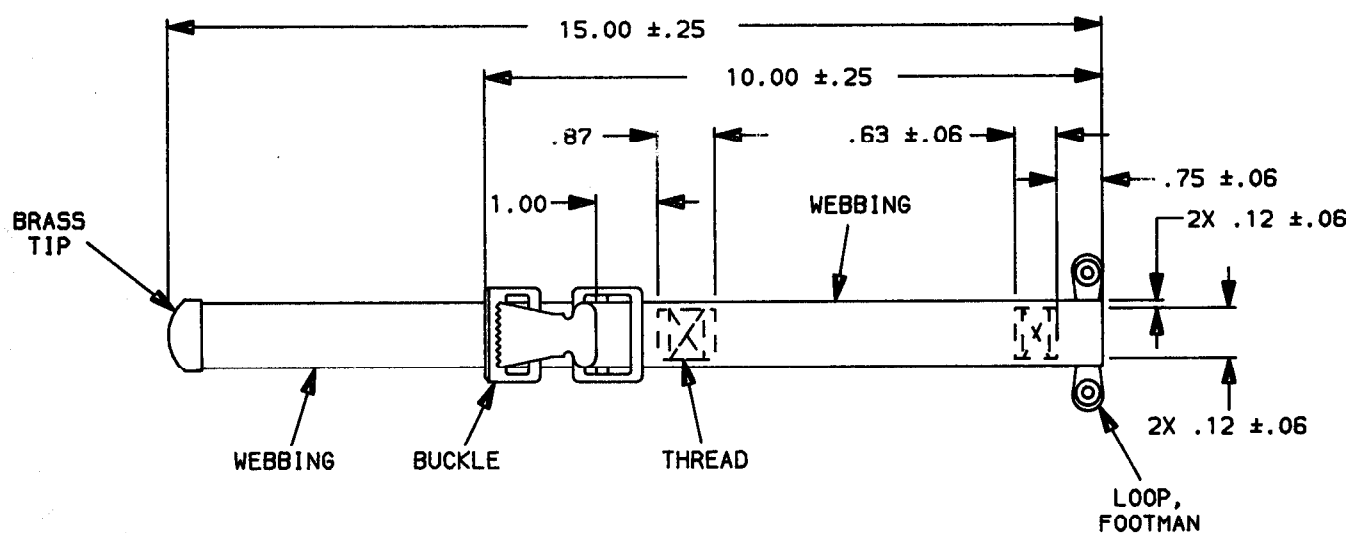


Figure E-5. Ladder Strap Assembly

Section II. ILLUSTRATED MANUFACTURING INSTRUCTIONS (Cont'd)

INSTRUCTIONS:

NOTE

Perform sewing procedures IAW FM 10-16 General
Fabric Repair (June 1984)

1. Cut 25 inches of webbing from bulk.
2. Crimp brass tip to end of webbing.
3. Position footman loop on webbing and stitch in place as shown.
4. Position buckle on webbing and stitch in place as shown.

Section II. ILLUSTRATED MANUFACTURING INSTRUCTIONS (Cont'd)

| MATERIAL BLOCK | | |
|----------------|------------------|---------------|
| STOCK SIZE | DESCRIPTION | SPECIFICATION |
| "O" GAUGE | WIRE, ELECTRICAL | MIL-C-13486 |

| 200 AMP ALTERNATOR CABLE ASSEMBLY | | | | |
|-----------------------------------|---------------------|-----------------------|------------------|-------------------|
| CABLE PART NUMBER | CUT LENGTH (INCHES) | MANUFACTURED FROM NSN | END TERMINAL NSN | END INSULATOR NSN |
| 12339317 | 58 | 6145-00-705-6674 | 5940-00-735-5520 | 5970-01-174-9449 |

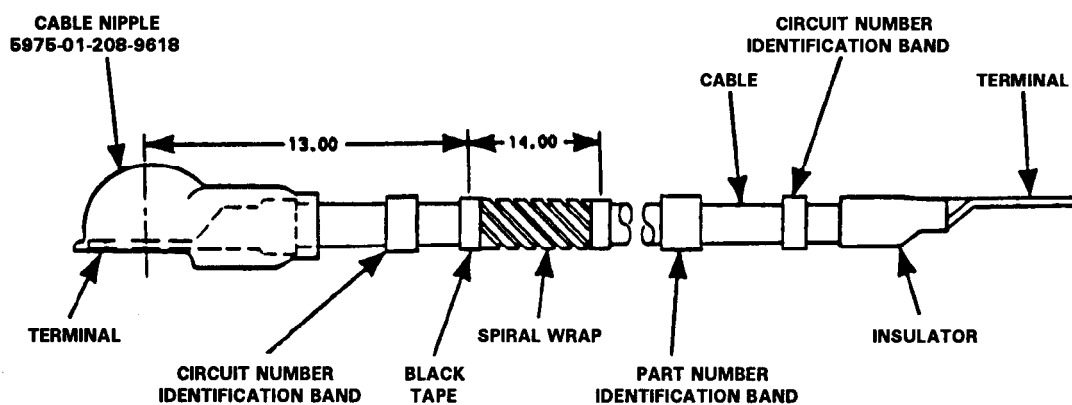


Figure E-6. 200 Amp Alternator Cable Assembly

INSTRUCTIONS:

1. Cut cable to length as shown.
2. Cut 14 inches of spiral wrap from bulk and install as shown. Secure spiral wrap in position with black tape at both ends.
3. Select and solder proper end terminals to cable ends as shown. (Refer to TM 9-237 for soldering instructions.)
4. Install insulator and insulator boot to cable ends as shown.
5. Mark and install identification bands using old cable as reference.

APPENDIX F TORQUE LIMITS

F-1. SCOPE

This appendix lists standard torque values, as shown in table F-1, and provides general information for applying torque. Special torque values and sequences are indicated in the maintenance procedures for applicable components.

F-2 GENERAL

- a. Always use the torque values listed below when specific specifications are not available.
- b. Unless otherwise specified, standard torque tolerance shall be $\pm 10\%$.
- c. Torque values listed are based on clean and dry threads. Reduce torque by 10% when engine oil is used as a lubricant.
- d. Reduce torque by 20% if new plated capscrews are used.

CAUTION

Capscrews threaded into aluminum may require reductions in torque of 30% or more, unless inserts are used.

Table F-1. Standard Torque Specifications

| NUT OR CAPSCREW SIZE (INCH) FINE AND COARSE THREADS | TORQUE | | | | NUT OR CAPSCREW SIZE (MILLIMETER) | TORQUE | | | |
|--|---------|-----|---------|-----|--------------------------------------|---------|-----|---------|-----|
| | GRADE 5 | | GRADE 8 | | | GRADE 5 | | GRADE 8 | |
| | lb - ft | N-m | lb - ft | N-m | | lb - ft | N-m | lb - ft | N-m |
| 1/4 | 6 | 8 | 10 | 14 | 6 | 10 | 14 | 12 | 16 |
| 5/16 | 15 | 20 | 21 | 29 | 8 | 20 | 27 | 23 | 31 |
| 3/8 | 26 | 35 | 37 | 50 | 10 | 40 | 54 | 48 | 65 |
| 7/16 | 43 | 58 | 60 | 81 | 12 | 70 | 95 | 80 | 109 |
| 1/2 | 65 | 88 | 90 | 122 | 14 | 113 | 153 | 132 | 179 |
| 9/16 | 90 | 122 | 130 | 176 | 16 | 176 | 239 | 207 | 281 |
| 5/8 | 130 | 176 | 178 | 241 | 20 | 343 | 465 | 399 | 541 |
| 3/4 | 185 | 251 | 260 | 353 | | | | | |
| 7/8 | 300 | 408 | 420 | 570 | | | | | |
| 1 | 440 | 597 | 635 | 861 | | | | | |

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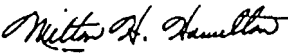
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By Order of the Secretary of the Army

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:


MILTON H. HAMILTON
Administrative Assistant to the
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00899

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IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Item 10. Change illustration. Reason: Tube end shown assembled on wrong side of lever cam.

Item 3. The NSN and P/N are not listed on the AMDF nor the MCRL. Request correct NSN and P/N be furnished.

Preventive Maintenance Checks and Services. Item 7 under "Items to be inspected" should be changed to read as follows: Firing linkage and firing mechanism pawl.

Since there are both 20- and 30- round magazines for this rifle, data on both should be listed.

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TEAR ALONG PERFORATED LINE

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
 1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 1000 Grams = 2.2 Lb
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
 1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
 1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

TEMPERATURE

$5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212^o Fahrenheit is equivalent to 100^o Celsius
 90^o Fahrenheit is equivalent to 32.2^o Celsius
 32^o Fahrenheit is equivalent to 0^o Celsius
 $9/5 \text{ C}^{\circ} + 32 = \text{F}^{\circ}$

APPROXIMATE CONVERSION FACTORS

| <u>TO CHANGE</u> | <u>TO</u> | <u>MULTIPLY BY</u> |
|----------------------------------|--------------------------------|--------------------|
| Inches | Centimeters | 2.540 |
| Feet | Meters | 0.305 |
| Yards | Meters | 0.914 |
| Miles | Kilometers | 1.609 |
| Square Inches | Square Centimeters | 6.451 |
| Square Feet | Square Meters | 0.093 |
| Square Yards | Square Meters | 0.836 |
| Square Miles | Square Kilometers | 2.590 |
| Acres | Square Hectometers | 0.405 |
| Cubic Feet | Cubic Meters | 0.028 |
| Cubic Yards | Cubic Meters | 0.765 |
| Fluid Ounces | Milliliters | 29.573 |
| Pints | Liters | 0.473 |
| Quarts | Liters | 0.946 |
| Gallons | Liters | 3.785 |
| Ounces | Grams | 28.349 |
| Pounds | Kilograms | 0.454 |
| Short Tons | Metric Tons | 0.907 |
| Pound-Feet | Newton-Meters | 1.356 |
| Pounds per Square Inch | Kilopascals | 6.895 |
| Miles per Gallon | Kilometers per Liter | 0.425 |
| Miles per Hour | Kilometers per Hour | 1.609 |

| <u>TO CHANGE</u> | <u>TO</u> | <u>MULTIPLY BY</u> |
|--------------------------------|----------------------------------|--------------------|
| Centimeters | Inches | 0.394 |
| Meters | Feet | 3.280 |
| Meters | Yards | 1.094 |
| Kilometers | Miles | 0.621 |
| Square Centimeters | Square Inches | 0.155 |
| Square Meters | Square Feet | 10.764 |
| Square Meters | Square Yards | 1.196 |
| Square Kilometers | Square Miles | 0.386 |
| Square Hectometers | Acres | 2.471 |
| Cubic Meters | Cubic Feet | 35.315 |
| Cubic Meters | Cubic Yards | 1.308 |
| Milliliters | Fluid Ounces | 0.034 |
| Liters | Pints | 2.113 |
| Liters | Quarts | 1.057 |
| Liters | Gallons | 0.264 |
| Grams | Ounces | 0.035 |
| Kilograms | Pounds | 2.205 |
| Metric Tons | Short Tons | 1.102 |
| Newton-Meters | Pound-Feet | 0.738 |
| Kilopascals | Pounds per Square Inch | 0.145 |
| Kilometers per Liter | Miles per Gallon | 2.354 |
| Kilometers per Hour | Miles per Hour | 0.621 |

